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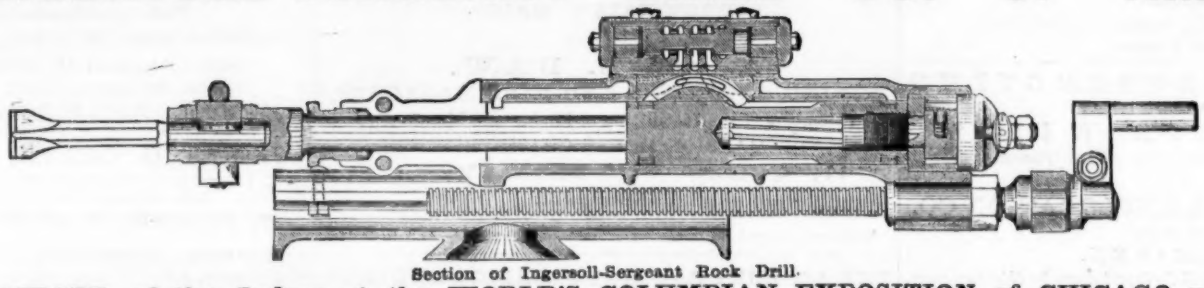

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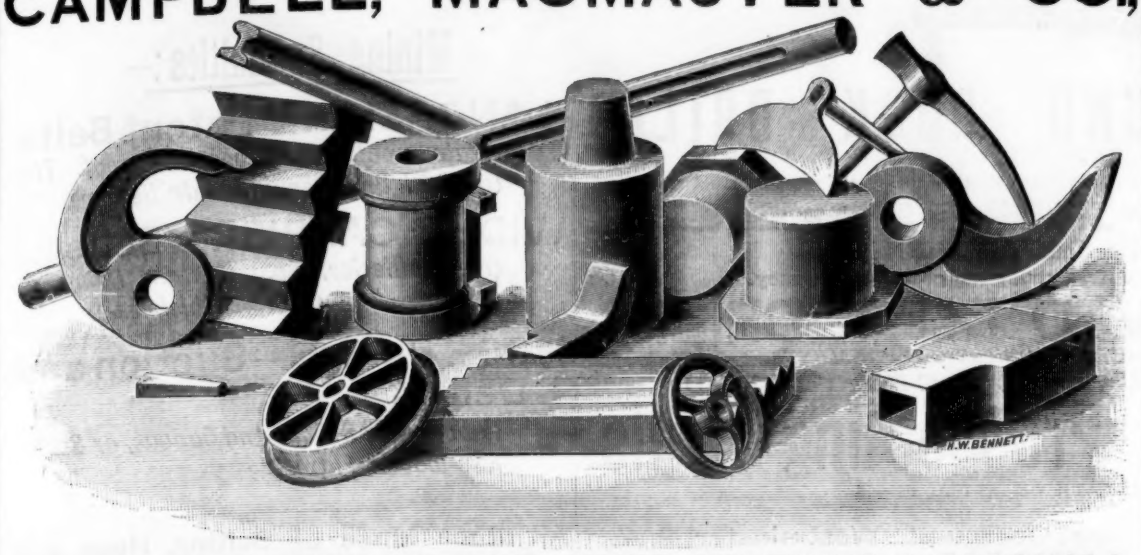

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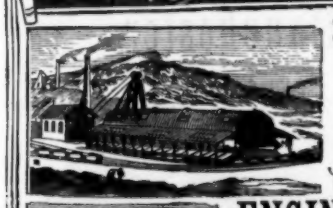

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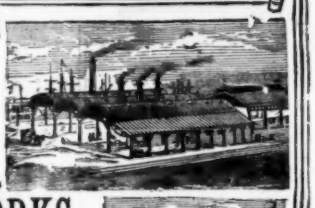

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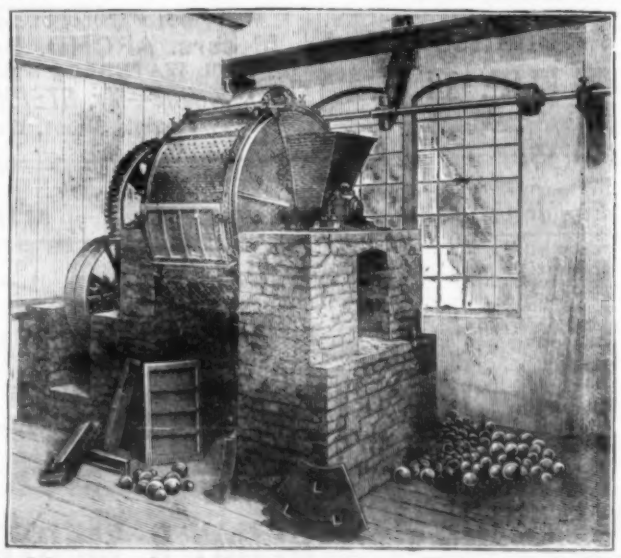

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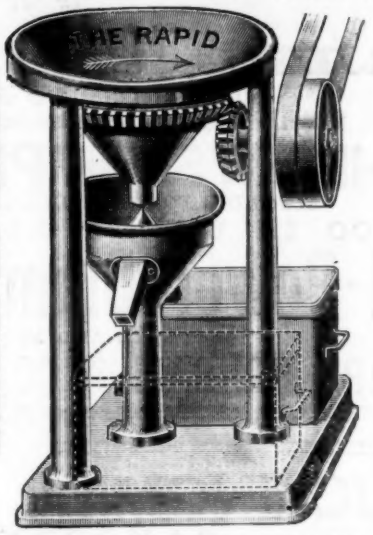

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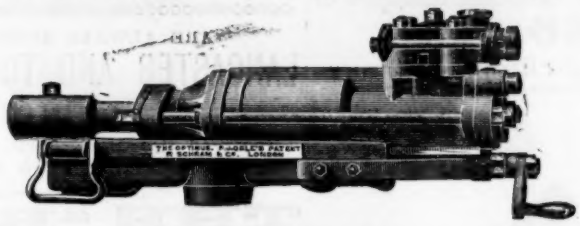
HERBERTON (WILD RIVER) TIN LODES NORTH QUEENSLAND.

Every information relative to the progress of lode-tin mining in the Wild River district (termed by geologists "The Cornwall of Australia") can be obtained by communicating with the undersigned. CHARLES JENKIN.

"Herberton Advertiser" Office, Herberton, September, 1893.

REVOLUTION IN ROCK DRILLING



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Consumes 40 per cent. less Compressed Air than any other Drill at the same time giving the most effectual results.

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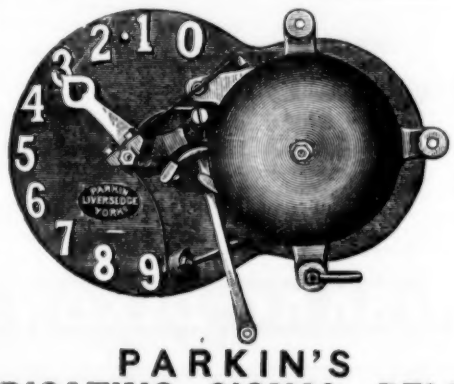

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Gold Medal, International Exhibition, Paris, 1889. *Gold Medal, Exhibition of Mining & Metallurgy, London, 1890*

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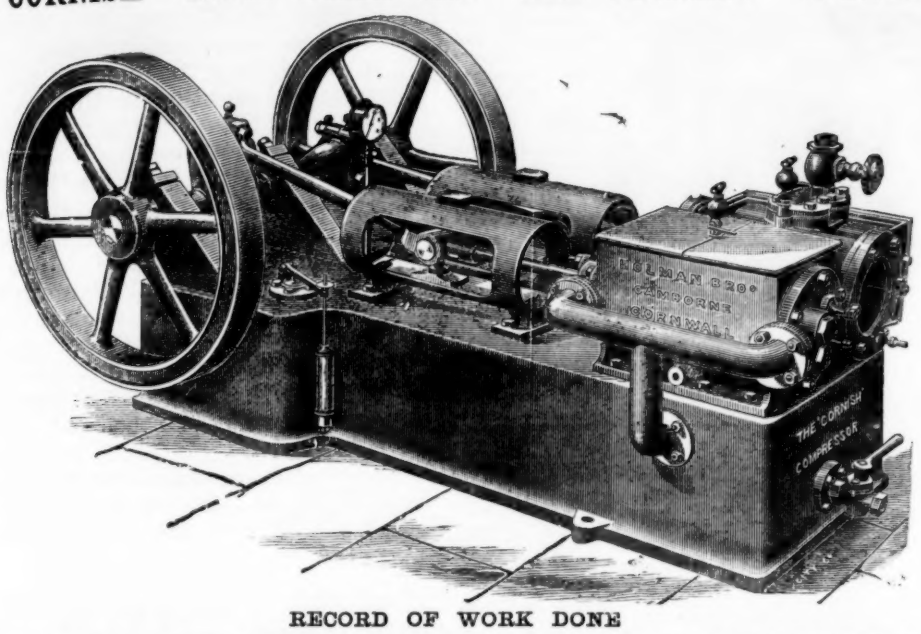

RECORD OF WORK DONE

At Botallack Mine, St. Just, Cornwall, **TWELVE MEN** with **TWO** new Patent **CORNISH ROCK DRILLS** drove, sunk, and rose **288 FATHOMS** in **12 MONTHS**, equal to five times the Speed of Hand Labour

At Wheal Grenville Mine, Camborne, Cornwall, **SIX MEN** with **TWO** new Patent **CORNISH ROCK DRILLS** started from the **150 FATHOMS** level and put up in **EIGHT MONTHS** a **11 FEET** by **5 FEET PERPENDICULAR RISE 46 FATHOMS 5 FEET 6 INCHES**, and about midway drove **1 FATHOM 5 FT.** No communication of any kind was effected until holing to the Shaft brought down from surface.

Estimates for ROCK BORING PLANT and GENERAL MINING MACHINERY on Application.

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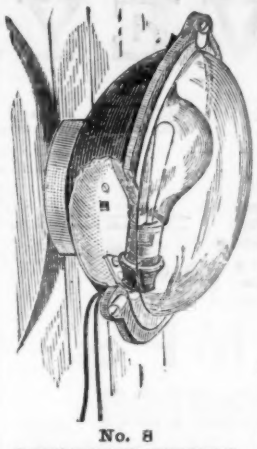

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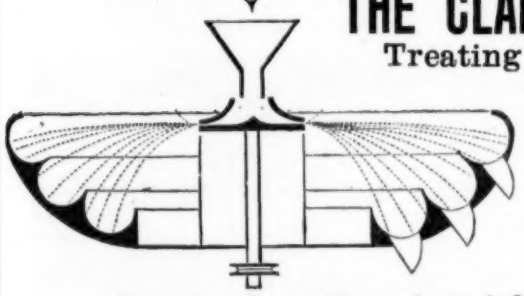

THE CLARKSON-STANFIELD CONCENTRATOR (LIMITED), are successfully

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Homogeneous substances, such as Emery, Glass, Sand, Sulphur, Black Lead, &c., graded according to size in one operation.

Terms for Experimental Concentration, and for Supply of Machines on Application.

NEW PATENTS.

LIST of APPLICATIONS for New Patents relating to Mining Metallurgical, Engineering, Railway and kindred matters, specially compiled from official sources for the "Mining Journal" by Messrs Rayner and Company, Patent Agents, 37, Chancery Lane, London, W.C., who will forward all information regarding them free on application.

862 James Bural Burrell, 47, Eldon Road, Cardiff.—Improvements in packing rings of pistons for steam engines, pumps, and other mechanical appliances.—January 15.

866 William Maltman Muirhead, 37, Vincent Street, Glasgow.—Improvements in valve gear for cylinder and piston water meters.—January 15.

867 Robert Burley, 37, Vincent Street, Glasgow.—Improvements in picks and similar tools.—January 15.

870 Henry Campbell, Commercial Street, Halifax.—Improvements relating to the piston and cylinder of gas and oil motor engines.—January 15.

895 Henry John Worssam, 28, Southampton Buildings, Chancery Lane, London.—An improvement in roller mills.—January 15.

902 Carlo Cozzi, 45, Southampton Buildings, Chancery Lane, London.—Improvements in metallic packing for stuffing boxes.—January 15.

963 Henry Davis, 52, Chancery Lane, London.—Improvements in coal mining machines.—January 16.

971 Samuel Arnold, 18, Buckingham Street, Strand, London.—Improved safety gear for mining cages and other lifts.—January 16.

996 Thomas Whitaker, 6, Bank Street, Manchester.—Improvements in excavating apparatus.—January 16.

997 Leon Serpollet, 40, Chancery Lane, London.—Improvements in boilers.—January 16.

1011 Robert William Bisset Creske, 41, Reform Street, Dundee.—Improvements in and relating to destructor furnaces.—January 17.

1057 Oswald Hamilton, The Undershore, Northfleet.—An improved automatic feeding apparatus.—January 18.

1108 Herbert Lindley, 4, Corporation Street, Manchester.—Improvements in speed governors.—January 18.

1119 Moses James Adams, Peasholme Green, York.—An improved method of feeding and constructing furnaces and stoves.—January 18.

1195 David Pringle, 115, St. Vincent Street, Glasgow.—Improvements in the manufacture of ropes and the like.—January 19.

1242 John Smith Raworth, 46, Lincoln's Inn Fields, London.—Improvements in or relating to steam turbines.—January 19.

1244 Francis Gordon Bates, 47, Lincoln's Inn Fields, London.—Improvements in baths for toughening, strengthening, and hardening iron and steel.—January 19.

1245 Jean Marie Morel, 35, Southampton Buildings, Chancery Lane, London.—Improvements in tooth gear.—January 19.

1280 Edward Thomas Cleathero, 16, Tollington Place, London.—Improvements in hydraulic lifts, crane, and the like.—January 20.

1297 Richard Schulz, 6, Lord Street, Liverpool.—Improvements in steam generators.—January 20.

SPECIFICATIONS PUBLISHED.

859, Beaumont, speed gearing, 1893; 3432, Stewart and others, steam boiler, &c., furnaces, 1893; 4134, Villard and Wittman, friction couplings, 1893; 4249, Orme and Collins, pressure gauge, 1893; 4424, Appleyard and Foster, carding engines, 1893; 8980, Hargreaves and others, packings for piston rods, &c., 1893; 21,775, Brünler, gas and petroleum engines, 1893; 22,539, Malam and Schofield, steam boilers, &c., 1893; 22,541, Russell, packing rings for piston rods, &c., 1893.

The above specifications published may be had of Messrs. Rayner and Company 13, Chancery Lane, London, at 10d. each including postage.

CONTRACTS OPEN:

FOR MINE, QUARRY, RAILWAY, AND ENGINEERING WORK, STORES, &c.

*** We shall be obliged by being promptly placed in possession of particulars regarding contracts open for competition, and of the results of successful tenders. In the latter case contract prices should be given.*

The date given is that by which tenders must be delivered, in nearly all cases further information can be obtained on application at the addresses given. In applying for such the name of "The Mining Journal" should be mentioned as the original source of the information, concerning which further particulars are required.

HOME CONTRACTS.

Pumping Machinery, February 5 (*Richmond, Surrey*).—For providing and erecting a new pumping engine and pumps at the Water Works, Riverside, Richmond, for the Town Council. Plans and specifications of Mr. W. G. Pierce, Borough Water Works, Riverside, Richmond. Tenders to be addressed to Mr. F. B. Senior, Town Hall, Richmond, Surrey.

Brake Vans, February 6 (*India Office*).—The Secretary of State for India is prepared to receive tenders for the supply of (1) brake vans, &c., (2) spans. Conditions of contract to be obtained on application to the Director-General of Stores, India Office, Whitehall, S.W.

Locomotives, February 6 (*London*).—For locomotives and tenders, wagons, cranes, &c., for the Assam-Bengal Railway Company (Limited) Drawings to be seen at the office of Mr. William Duff Bruce, the company's consulting engineer, 17, Victoria Street, Westminster, S.W. Specifications and tender forms at the Company's offices, Bishopsgate House, Bishopsgate Street Within, E.C.

Brake Vans, February 6 (*India Office, S.W.*).—The Secretary of State for India in Council is prepared to receive tenders to supply (1) brake vans, &c., (2) spans. Conditions of contract to be obtained on application to the Director-General of Stores, India Office, Whitehall, S.W.

Steel Girders, February 7 (*York*).—For the construction of about 380 tons weight of steel girders varying in length from 11 feet to 36 feet, to be delivered in the company's wagons, at the station nearest to the builder's yard for the North Eastern Railway Company. Plans to be seen and specifications and quantities obtained on personal application to Mr. H. Copperthwaite, engineer's office, York.

Ironwork, February 8 (*Manchester*).—For the supply of various ironworks for bridges for the Manchester, Sheffield and Lincolnshire Railway Company. Plans and specifications at the Engineer's office, London Road Station, Manchester.

Railway Stores, February 9 (*Belfast*).—For supplying during next year the Belfast and Northern Counties Railway Company with various stores. Patterns and samples to be seen at the General Stores Department, Belfast, and forms of tender to be obtained on application to Mr. Ellis, stores superintendent, York Road Station, Belfast.

Railway Stores, February 15 (*Belfast*).—For the supply of stores for the Belfast and County Down Railway Company for twelve months from March 1. Tender forms to be had at the secretary's office and samples to be seen on application to the Storekeeper, Belfast.

Sinking Pit, (*Haywood-by-Auchengray, Scotland*).—For sinking pit at Haywood from the gas coal seam, to under coal seam. Particulars from the Manager.

Shaft (*Chorley*).—For sinking a shaft to the Mountain Mine at Chorley. Particulars of Mr. Rigby, Mining Engineer, King-street, Wigan.

Colliery Stores, (*Sunderland*).—For twelve months' supply of colliery stores for the Ryhope Colliery, near Sunderland. Forms of tender at the Colliery

Sinking Pits (*Aberbeeg, Mon.*)—For the sinking of two pits near Aberbeeg, Monmouthshire, to the steam coal measures. For particulars apply to Messrs. John Lancaster and Co. (Limited), Blaina, Mon.

Construction of Railway (*Madrid*).—The Secretary of State for Foreign Affairs has received from Her Majesty's Ambassador at Madrid, a copy of a royal decree, inviting tenders for the construction of a railway from Manila to Taal by Calamba and Batangas. The decree can be seen at the Foreign Office, S.W., on week-days between 11 and 6.

Sluice Valve, (*Manchester*).—For the supply of one 24-inch sluice valve for the Waterworks Committee. Plans and specifications on application to Mr. T. H. G. Berrey, Waterworks office, Town Hall, Manchester.

THE DEVELOPMENT OF SIBERIA.—Our St. Petersburg correspondent writes, January 24:—"The well-known navigator of the sea route to Northern Siberia, Captain Joseph Wiggins, has returned here overland through Siberia from Yeniseisk, after accompanying the Russian naval expedition up the river Yenisei, and delivering the rails for the Siberian Railway. Captain Wiggins considers this expedition to have been on the whole very successful, and certain, in conjunction with the rapid advance of the Siberian Railway, to lead very soon to an immense development of commercial as well as of Government enterprise in the region of the great Siberian waterways. Captain Wiggins was able this time to come by the new railway from Kurgan, west of Omsk, the furthest point to which the Siberian line is now ready for traffic. He states that Nansen's expedition had a splendid start from Waigats Straits in August as all the conditions were favourable."—*The Times.*

THE MILLIONAIRE HAS OFTEN ENVIED the toiling labourer his hearty appetite and sturdy health, and would gladly have sacrificed a large amount of his wealth in exchange for these blessings. Although money is a necessary article to possess in order to obtain the means of existence, it cannot purchase love, friendship, or immunity from the dangers and pangs of disease. Even £10,000 per annum may be earned at too great a sacrifice if we ruin our health and happiness during its accumulation. Holloway's Pills can give strength to the most delicate. They are the precious key which can open the door leading to the smiling valley of health. They purify the system, and give the essentials of strength for the blood.

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DAVEY, PAXMAN & Co., are SOLE Licensees and Manufacturers of the Huntington Patent Centrifugal Roller Quartz Mill for the whole World, excepting the United States of America, Mexico, and Australasia.

Telegraphic Address:

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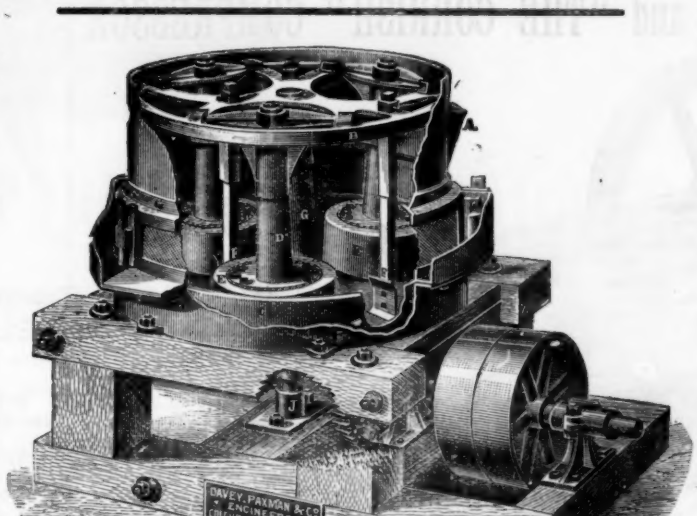

Huntington's Patent Centrifugal Roller Quartz Mill for fine pulverizing in Concentration.

LONDON OFFICE

78 [late 139], QUEEN VICTORIA STREET.

D. P. & Co., after a great number of careful experiments have so improved and perfected the Huntington Mill that it must now be classed among the greatest inventions of the age. The excellence of its work is undoubted, and its superiority over Stamp Mills will soon cause a revolution in its favour for Quartz Crushing. Its first cost, and cost for freight and transit is much less than for stamps, it absorbs about half the power for the same output, and is continually crushing. It can be fixed and started in 12 hours, requiring for foundations only two pieces of timber 12 in. by 12 in. by 14 feet long, is more reliable than stamps, and has perfect delivery. It is used to its greatest advantage on gold quartz, for, because of its excellent amalgamating properties, it catches about 75 per cent. of the gold put into it.

Full Particulars on Application to

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MECHANICAL ENGINEERING:

MACHINERY, MINING and RAILWAY PLANT, &c.

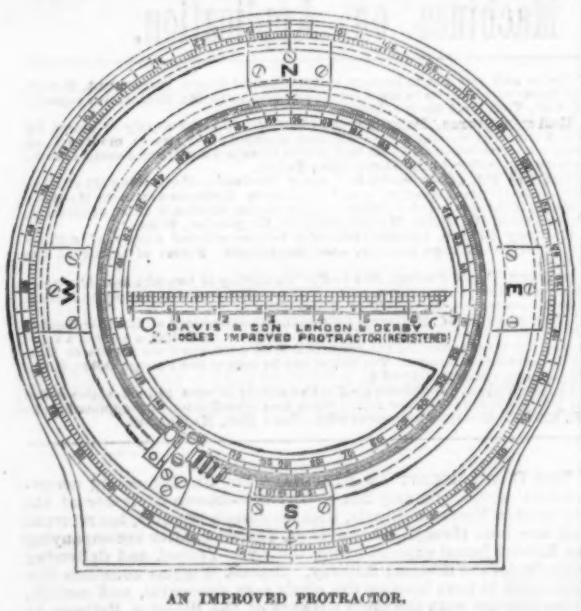
Illustrated Descriptions of New and Standard Mechanical Appliances, Accessories and Processes, adapted to Mining, Metallurgical, Railway, Engineering and other Industrial Purposes.

AN IMPROVED PROTRACTOR.

TO the large number of our readers who are engaged in mining surveys in various parts of the world it may be of interest to cite some few particulars concerning a new improved protractor, designed by Mr. P. J. Ogle, to facilitate the more accurate and speedy plotting of mining and other surveys, and now being manufactured by Messrs. John Davis and Son, of All Saints' Works, Derby, and 118, Newgate-street, London.

The instrument consists of three parts:—(1.) The outer frame with a true edge for working on the T square. (2.) The intermediate ring free to rotate within this frame. (3.) The inner ring or protractor proper, which is also free to rotate within the intermediate ring.

In plotting surveys with the ordinary protractor and parallel ruler, the meridian line is drawn on the plan at such an angle as best suits the position of the whole survey on the paper, and as each successive reading is to be added, a line parallel to the meridian line has to be drawn through the terminal point of the last reading by means of a parallel rule. From this line the next reading is marked by means of a protractor and the length of



AN IMPROVED PROTRACTOR.

the line measured by a scale. The Ogle Protractor obviates the necessity for the use and possible errors of the parallel rule; and its cross bar is divided as a universal scale, thus combining the three instruments. When using the improved protractor the N. and S. points on the intermediate ring are placed parallel with the meridian line of plan and clamped in position, and so remain fixed at the correct angle to the T square until the completion of the plan. The inner ring or protractor is rotated until the particular reading in regard to the N. and S. points on the intermediate ring is obtained and the line of the correct length is drawn by means of the scale on the cross bar.

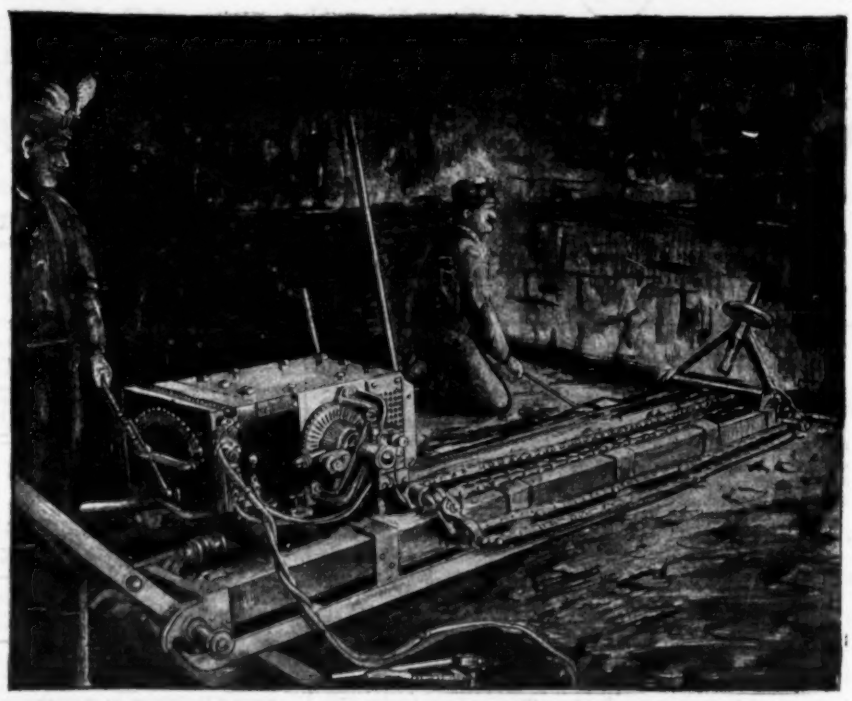
The illustration of the instrument which we are able to give will allow for the formation of a more vivid idea of its nature, and of a more accurate opinion as to its value. Professional men will thus be able to decide whether they can welcome in this new invention a useful addition to the instruments at their command, and whether it carries their paraphernalia one step nearer perfection.

AN ELECTRICAL COAL-CUTTER.

Some of the recent lectures delivered in London upon mining have discussed with great shrewdness the various mechanical appliances suitable for the industry, and attention has been more particularly directed towards the most improved electrical machines suitable for its purposes.

Among these latter may be mentioned the Jeffrey Electric Coal Mining Machine, patented by the Jeffrey Manufacturing Company, an illustration of which we are enabled to produce in our current issue.

The machine consists of a bed frame occupying a space two feet wide, by eight feet six inches long, composed of two steel channel bars firmly braced, the top plates on each forming racks with their teeth downward, in which the feed wheels of the sliding frame engage. Mounted upon and engaging with this bed frame is a sliding frame, similarly braced, consisting mainly of two steel bars, upon which are mounted at the rear ends one electric motor, from which power is transmitted through straight gear and worm wheel to the rack, by means of which the sliding frame is fed forward. Upon the front end of this sliding frame is mounted the cutter-bar, held firmly by two solid steel shoes, with suitable brass boxes. The cutter-bar contains bits, made of tool steel, held in place by set screws. When the cutter-bar is revolved, these cutters or bits cover its entire face. The cutter-bar is revolved by an endless curved link steel chain from the driving shaft, and, as it is revolved, is advanced by the above mechanism into the coal or other material, to be under-cut to the desired depth.



AN ELECTRICAL COAL-CUTTER.

The machines are operated by two men, one man in charge and the other as helper. Trucks are furnished with the machines, so they can be handled with ease. The machine is taken into the mine upon this truck and run into the room to be under-cut, it is then placed on two boards in front of the coal at one side of the room, and fastened firmly by means of the front and rear jacks, which are braced against the face and roof of the coal, thus preventing the machine from moving while in operation. The power is then turned on by the machine runner, and the machine proceeds to work.

The firm by whom this new appliance has been originated state that it has been largely introduced into American mines, several of which are exclusively operated by it. A simplicity so great as to obviate any necessity for a long apprenticeship is claimed for the machine, together with many other advantages.

ACTION OF SOME METALS UPON ACID SOLUTIONS OF THEIR CHLORIDES.—In a recent paper on the action of some metals upon acid solutions of their chlorides, MM. A. Ditte and R. Metzer say that if a plate of tin is plunged into a concentrated hydrochloric acid solution of stannous chloride, upon which a layer of water has been poured, crystals of tin are rapidly formed near the surface of separation. The arrangement amounts to a galvanic cell, in which the same electrode is plunged into different liquids. A solution of stannic chloride shows the same phenomenon, which takes place as soon as the water has, by the diffusion of the salt, become sufficiently conducting to permit the passage of the current. The tin above the surface of separation merely acts as a negative electrode, and may be replaced by a platinum wire. That the phenomenon is one of electrolysis may be shown by replacing a small portion of the bar of tin by an insulator placed at the surface of separation. No crystals are deposited until the two separated portions are brought into communication by the diffusing salt. When the stannic chloride solution is placed in a porous pot in a vessel of acidulated water, and the two liquids are joined by platinum plates, no electrolysis takes place; but cadmium treated by the first method shows precisely similar phenomena. Zinc, which is easily dissolved by the most dilute hydrochloric acid, shows nothing similar. Nickel, which is quickly covered with a protecting layer of hydrogen, and also bismuth and antimony, which are insoluble in hydrochloric acid, show no phenomena analogous to those exhibited by tin.

THE UTILISATION OF BY-PRODUCTS IN THE MANUFACTURE OF IRON AND STEEL.—The manufacture of Thomas steel, which makes large progress every year, has, it is well-known, given rise to a new industry, that of phosphates of slag, the value of which is becoming increasingly appreciated in agricultural operations. Phosphorous, which was at one time looked upon as a very injurious element in the manufacture of iron and steel, is now actually sought after by metallurgists, and the ores of Luxemberg and Lorraine have acquired a merit which they did not formerly possess, thanks to the value of phosphates as an artificial manure for the improvement of the soil. These phosphates, which are sold at the rate of 0·25 fr. per 100 kilogs., with a unit of phosphoric acid, have a richness of 15 per cent. They realise, therefore, 3·75 fr. per 100 kilogs., which represents almost the value of the pig itself from which the phosphorus has been extracted. It will readily be understood how greatly the richness of this slag diminishes the cost of output of Thomas steel made from phosphorus ores. The scoria produced in the manufacture of Bessemer steel contains no phosphorus and has not hitherto been utilised in any way. A short time ago Bessemer slag was used for brickmaking. The slag while hot was cast into vats containing water, where it became granulated, and was afterwards mixed with slaked lime. The same granulated slag, properly dried and mixed with lime, makes a slag cement which has been tested and utilised with success, not only for works on land but also for submarine constructions. The Cockerill Company have just started these two manufactures with success. Agriculture, moreover, obtains useful products from coke burning. The Semet-Solvay process of calcination employed at Havre, Seraing, and elsewhere, as well as the Otto process in favour in Germany, give per ton of coke burned 5½ kilogs. of sulphate of ammonia, which is worth, according to the condition of the market, from 250 to 300 fr. per ton.—*Cote Libre.*

ANNUAL DINNER OF THE ROYAL SCHOOL OF MINES.

THE GREATEST SUCCESS OF ALL.

THE twenty-first annual dinner of the old students of the Royal School of Mines, which took place on Monday, at the Criterion Restaurant, was undoubtedly the most successful ever held in connection with that institution. The magnitude of the attendance, the cordial tone which prevailed, the high oratorical plane reached and maintained by the speakers, concurred to make the occasion a peculiarly memorable one. Nothing that could add to the comfort and pleasure of the guests was wanting. The duties of submitting and replying to the various toasts of the evening were conceded to those among the many distinguished guests possessed not only of something to say, but of the faculty of saying it in an attractive way. Perhaps to the judicious selection of orators was referable the spontaneity and grace with which the humour and pleasantries of the evening were given In this connection the speech of Professor Rücker was supreme. His delicate humour and his clear, flowing rhetoric made him at once a favourite with those who had never had the fortune of hearing him before.

Mr. H. G. Graves, the honorary secretary of the dinner committee, has to be thanked by the old students for the completeness and judgment characterising his arrangements. His indefatigable industry in whipping together the notabilities and the mining men in the assemblage found its appropriate reward in the *éclat* with which the dinner passed off. A small but excellent orchestra rendered some selections of music at intervals during the evening, noticeable among them, by reason of the applause it evoked, and the able way in which, it was executed being the "Intermezzo" of Mascagni. The string quartette was composed of Mr. S. Oakley Parrott, Mr. T. Oppler, Mr. B. H. Madden, and Mr. A. Ball, while Mr. George Burgess sat at the piano.

The chair was occupied by Mr. BENNETT H. BROUGH, and among those present—leaving out the courtesy title which is generally deemed superfluous with men of science—were: Captain W. de W. Abney, C.B. F.R.S.; H. A. Allen; S. Allingham, A.R.S.M.; A. Arundel; Professor W. C. Roberts-Austen, C.B., F.R.S., A.R.S.M.; Dr. E. J. Ball; A. K. Barnett; H. Bauerman, A.R.S.M.; F. W. Bayly, A.R.S.M.; Sir Lowthian Bell, Bart., F.R.S.; R. Seymour Benson, A.R.S.M.; E. Best; C. Black; L. F. J. Bradley; H. Brelich, A.R.S.M.; Professor F. Clowes; C. Barrington Brown, A.R.S.M.; H. T. Butcher; M. Carteighe, Pres. Pharm. Soc.; T. G. Chambers, A.R.S.M.; H. Chaney, A.R.S.M.; A. G. Charleton, A.R.S.M.; Rev. A. Chilton; R. E. Commans; W. J. Cousins; F. H. P. Creswell; A.R.S.M.; W. Davidson, A.R.S.M.; W. Day, A.R.S.M.; A. Del Mar, A.R.S.M.; A. Dickinson, A.R.S.M.; C. Le Doux, A.R.S.M.; W. A. A. Dowden, A.R.S.M.; A. W. Dymond, A.R.S.M.; J. Eustice, A.R.S.M.; G. FitzBrown, A.R.S.M.; F. Fladgate, Registrar; J. Forbes, jun.; S. W. Ford, A.R.S.M.; Professor C. Le Neve Foster, F.R.S., A.R.S.M.; S. F. Franco; J. Forbes, senr.; A. Gibb, A.R.S.M.; G. Gibbens; P. C. Gilchrist, F.R.S., A.R.S.M.; H. G. Graves, A.R.S.M.; J. Gray, A.R.S.M.; Ben Howe, A.R.S.M.; P. Gregson; A. P. Griffiths, A.R.S.M.; J. G. Gordon; W. Gowland, A.R.S.M.; C. V. Haines; F. W. Harbord, A.R.S.M.; R. S. Hawkins; T. Healey; H. Hinton; G. T. Holloway, A.R.C.S.; H. W. Hopkins, A.R.S.M.; Professor G. B. Howes; H. W. Hughes, A.R.S.M.; T. V Hughes, A.R.S.M.; C James; H. C. Jenkins, A.R.S.M.; H. Chapman Jones; J. B. Jordan; A. D. Kinloch; B. Kitto; R. E. Peake; W. I. Last; J. G. Lawn, A.R.S.M.; J. Layzell; H. Louis, A.R.S.M.; D. A. Louis; C. S. Long Innes; A. W. Lucas; C. McDermid; J. McKillop; B. McNeill, A.R.S.M.; H. Ramsden; R. Roberts; C. Martineau; E. Matthey, A.R.S.M.; W. H. Merrett; J. Morris; J. C. Moulden; Dr. Wm Newton; H. G. Nichols, A.R.S.M.; R. North; E. Ogle; R. D. Oldham, A.R.S.M.; Professor F. J. M. Page, A.R.S.M.; C. E. Parsons; J. S. Pearce; A. Philip; A.R.S.M.; A. G. Phillips, A.R.S.M.; H. K. Picard; R. B. Pollitt; F. D. Power; S. W. Price; A.R.S.M.; Dr. Van Rijckevorsel; W. Richards; N. P. Robarts; T. K. Rose, A.R.S.M.; Professor A. W. Rücker, F.R.S.; F. W. Rudler; H. Pritchard; P. G. Sandford; G. Seymour, A.R.S.M.; W. B. Scott; H. Shand; C. H. Sidebotham; E. A. Smith, A.R.S.M.; G. J. Snelus, A.R.S.M.; J. E. Snelus; A. Stansfield; D. A. Sutherland; A. Sutton, A.R.S.M.; W. Thomas; Professor T. E. Thorpe, F.R.S.; W. Topley, F.R.S.; A. F. Tutton, A.R.C.S.; C. Vautin; G. A. Watermeyer; H. G. Wardale; J. Fletcher White; S. A. Willmott; P. O. Wilson; R. A. Wilson; Sir H. Trueman Wood; G. H. Wyatt, A.R.C.S.; Dr. W. P. Wynne, A.R.C.S.

The board having been cleared, the CHAIRMAN proposed the toast of "The Queen," saying that the health of her Most Gracious Majesty was always cordially honoured at all gatherings of Englishmen, and would be received with especial warmth and respect by the students of a royal school. Moreover, beyond these considerations, they could not fail to remember the warm sympathy the Queen had always shown on the occasions of those terrible mining catastrophes which had happened during her long and prosperous reign.

The toast was received with great cordiality, the company standing during the performance of a verse of the National Anthem by the orchestra.

The CHAIRMAN said that the next toast was that of the "Past and Present Professors," which he proposed to submit very briefly, seeing that it was the function of the Chairman rather to elicit speeches from others than to make them himself (hear, hear), and seeing also that the toast required no eloquence on his own part to recommend it to the assemblage. Unhappily there was present no representative of the roll of past professors. Mr. H. G. Graves, the hon. secretary, had received letters regretting inability to be present from Lord Playfair, their first professor of chemistry, and from Sir George Stokes, one of the early professors of physics. On the other hand he saw a large number of the present professors in the company—(Applause)—Professor Roberts-Austen—(Applause)—for instance, Professor Le Neve Foster—(Applause)—Professor Thorpe, Professor Rücker, Professor Howes, and of the assistant professors, Dr. Ball and Dr. Wynne. Besides these gentlemen there were the demonstrators present in large force. Since the last dinner the School had experienced a very sad loss in the lamented death of their late registrar, Major McGregor, who, during the 10 years in which he held office, had thoroughly endeared himself not only to the staff but also to the students. (Hear, hear.) He was glad to know that they were able to count among the guests his successor, the new registrar—(Applause)—and he sincerely hoped that was the first of a long series of old student's dinners which he would honour with his presence. Another change in the staff had been the promotion of Dr. Ball from the position of instructor in assaying to a high office in the Science and Art Department. He was confident that he was merely expressing the feelings of the company when he assured Dr. Ball that he would carry with him their best wishes in his new career. He would undoubtedly find it a pleasant change from the sulphuretted hydrogen and the carbonic oxide of the metallurgical laboratory to the ozone of the Devonshire lanes. With the toast he had to couple the name of their senior professor—Professor Roberts-Austen (Applause)—one who had for years taken an interest in the annual gathering, and whose solicitude for the welfare of both past and present students was well known to all.

Professor ROBERTS-AUSTEN, who, on rising to respond, was greeted with loud cheering, said that the professors of the School of Mines always presented themselves to him from the point of view of a student, and accordingly it was as a student, rather than as a professor, that he addressed them. He could not help thinking that any student, glancing at the list of those who had been professors at his school, would feel that he was looking at a list of men who had done good service to British science. During the 42 years of the existence of the School of Mines there had been 16 professors who sat at the council and of those, two, Sir George Stokes and Professor Huxley, had received the highest honour that science had to give—that of the Presidency of the Royal Society. Of four of their distinguished chemists, one, Lord Playfair, was a peer of the realm, while Dr. Von Hoffmann was ennobled on returning to his own country. In addition they had given to the world one Privy Councillor, one baronet and two knights, while, quite apart from the many academic distinctions, many of their members had also been members of the Senate of the London University. What other institution, a student might fairly ask, could show, in so short a time, the names of so many men who had done such service to the commonwealth of learning? And if he had blended mere worldly distinctions with scientific ones it was in order to show that the country delighted to honour those who had done her service, and that their professors had always been men who had risen to the reputation they had made, who put into their work all they had to give, who had the courage and endurance never to fall below their reputation. Perhaps he might be permitted to mention one or two of the professors who had passed away. Of his illustrious predecessor, Dr. Percy, he should always retain the fondest remembrance and the most affectionate regard. Most of those present knew that he held an important position in connection with the House of Commons, for he had the entire control of its supply of air and heat. Whether he would have been equal to the task of ventilating the present House of Commons—(laughter)—he was not prepared to say; but he was quite sure he would have done his duty and would have resisted the temptation to treat it either with marked coldness or undue heat. He would also say a word about another who had passed away during the year. His distinguished colleagues would all admit that Dr. Tyndall had taught them what an experimental lecture should be. Some people used to feel distressed at the attitude he took towards what many cherished so deeply; but they overlooked one or two sentences in the much-quoted Belfast address, one of which, if they would forgive him for taking a somewhat serious view of his friend's teaching, he would recall to their minds. He said: "There are such things woven into the texture of man's nature as feelings of awe, reverence and wonder; the love of the beautiful, physical and moral, in nature, poetry and art. There is also that deep-set feeling which, since the earliest dawn of history, has incorporated itself into the religious systems of the world. You who have escaped from those religions into the clear light of intellect may deride them; but, in so doing, you deride the existence of form merely, and fail to touch the basis of religion in man's mind." Well might *The Times*, in its obituary notice of Dr. Tyndall, say that bishops now stand where Dr. Tyndall stood 30 years ago. Perhaps the most remarkable feature of the School of Mines was the wonderful sympathy which had always existed between the professors and the students. The success of the students was the success of the professors, and the professors and the staff, for whom he had to return thanks, had the sincerest wishes for the welfare of the students, to attain which they would strain every nerve. He thanked them heartily for the toast. (Loud applause.)

The CHAIRMAN, in proposing the toast of "Success to the Mining and Metallurgical Industries and to the Royal School of Mines," said it had been properly described by the toast-master as the toast of the evening. (Applause.) It had also the special merit of being coupled with the names of Sir Lowthian Bell, Bart., and Professor Le Neve Foster, gentlemen of distinction, who, in replying, would probably favour the assemblage with some recent and valuable information relating to the two industries. It was usual in proposing the toast to review briefly the events that had happened since the last annual dinner. The retrospect on this occasion was not a cheerful one. The year 1893 would long be remembered as a notable one in the history of mining and metallurgy. Probably never before had those industries suffered such an extensive and severe depression. The record of the year was of stagnation and of combat with unfavourable circumstances, chief amongst which were the failure of the Australian banks, the disturbances in South America, the depreciation of silver, and, lastly, the coal strike, the most disastrous and most protracted struggle recorded in the history of capital and labour. From this last cause alone a loss was occasioned which was given by Mr. Emerson Bainbridge as £33,000,000. Happily the outlook was now more promising, and it was gratifying to find that the views of Sir Courtenay Boyle, of the Board of Trade, were certainly optimistic. A satisfactory outcome of the fall in silver was that more attention had been directed to gold producing properties. Prospectors were busy in the search for new deposits and old mines were being reopened. It was to be hoped, therefore, that gold mining was to have a new growth. The hard times had resulted in the introduction of technical economies in the modes of working. The McArthur-Forrest process had come into increased use, and its success had led to the trial of numerous gold extracting processes—not, however, in all cases with satisfactory results. Indeed it would appear that the Portuguese author of "English as She is Spoke," unconsciously enunciated a truth when he included among his proverbs the statement that "A bad arrangement is better that a process." In South Africa the mining industry was making rapid strides. No fewer than 2195 heads of stamps were at work on the Randt, treating ore which now produced bullion valued at £500,000 per month. In this district there were now 50 producing companies, more than half of which were dividend-paying. This result was due in no small measure to the skill and industry of the numerous School of Mines men working in the district. He need hardly say what a pleasure it was to him on visiting Johannesburg 16 months ago to find an old class-mate, Mr. Johns of the Ferreira Mine, occupying perhaps the most responsible and most lucrative post in that town, directing mines that were regarded throughout South Africa as models of skilful management. A striking feature of the year 1893 was the fact that South Africa had surpassed the United States and Russia in gold output, so that Australia alone was left to contest the palm with the Randt. With regard to the iron trade it was unnecessary for him to make any remarks, for they were all looking forward to hearing from Sir Lowthian Bell that the outlook was more promising and that the break in the clouds had come at last. He would now turn to the last section of the toast, "Success to the Royal School of Mines." When it was founded the School was positively the only institution where mining and metallurgy were taught. Now there were great Provincial colleges and well-equipped classes throughout the country. Happily between these younger institutions and their own, most cordial relations were maintained; this spirit of co-operation being largely due to the fact that so many of the professors of of these colleges were trained at the Royal School of Mines. A less satisfactory competitor with their School was the developing and much-advertised system which claimed to impart by correspondence a thorough knowledge of mining. (Laughter.) Such advertisements were misleading. All that the best equipped mining school could do was to give the student some idea of the general principles on which mining was based, and even this at South Kensington was supplemented by visits to mines and works where the things described could be seen. Another competitor with their school was brought under his notice by Professor Roberts-Austen, who kindly secured for him the advertisement of a Turkish bath in a county town in the South of England, where the proprietor, when not engaged as *masseur*, filled up his time by giving instruction in mine-surveying at very reasonable rates. (Laughter.) Having had opportunities of comparing the teaching at their own school with that at many Continental and American schools, he was convinced that the teaching here was very hard to beat. The students not only obtained a thorough training in the principles of mining and metallurgy, but were also privileged to receive preliminary instruction at the Royal College of Science in the pure sciences from the most distinguished authorities in this country. Since his appointment as assistant to Sir Warington Smyth in 1882 to his leaving the Government service last year, he had seen the course of instruction developed and greatly improved. Much-needed subjects—mathematics, blowpipe analysis, ambulance work, and mine-surveying—had been added to the curriculum; students had now opportunities of practically working with gold stamps and other dressing machinery, and with deep boring plant; whilst the development of the machinery collection of the South Kensington Museum afforded a constant supply of object lessons. What other institution possessed such teaching appliances or such teaching power? He now learned that Professor Le Neve Foster intended to introduce some instruction in mining book-keeping and mining law. This seemed to be an addition of the highest importance, for it would tend to obviate a difficulty that had long been felt—the difficulty of avoiding a purely academic view of matters that by others were regarded only in the light of £. s. d. For men accepting foreign appointments some slight knowledge of mining law would be of enormous advantage. One could not, of course, hope for more than a smattering, for no European could ever fully appreciate the United States law of the apex, any more than he could follow the case of the United States citizen who found a valuable meteorite on the land he rented. His landlord claimed it on the ground that mining rights were not included in the lease; and when he pleaded that it belonged to the air, he was summoned for shooting game without a license. (Laughter.) He successfully fought a State claim for treasure trove, and an action for harbouring vagrants, but eventually succumbed to a Customs prosecution, and was ruined, for importing minerals in contravention of the McKinley Act. (Laughter and applause.)

Sir LOWTHIAN BELL, in returning thanks, said he had heard during the evening many comfortable assurances from the Chairman, but to his mind the most saving was the one in which he proposed to make himself responsible for the speeches of the evening. If, therefore, he fell short of their expectations, they would know upon whom the responsibility would rest. (Laughter.) He had had the honour, upon more occasions than one, of being invited to take part in the annual festivity of the Royal School of Mines, but unfortunately circumstances had always interposed to prevent him from availing himself of the hospitality of the students and the professors of the school, and upon that occasion he had run a very good chance of missing the opportunity of enjoying their society. In point of fact he had arranged before he received their invitation to leave that morning for the shores of the Mediterranean, but he made up his mind that, *coûte qui coûte*, he would not be deprived of the pleasure of coming amongst them. (Applause.) What could he say with regard to the mining and metallurgical industries of the country? Both stood grievously enough in need of their good wishes. At the same time, as one who had laboured in the ranks for the past fifty years, and who had lived through good and bad times, he was not disposed to take a despondent view of the present situation. Undoubtedly within recent years a condition of things had cropped up, which people fancied was totally unknown in the days of his youth. Men were apt to imagine that years ago there was no such thing as a labour difficulty. Well, he had the honour of addressing many young men, some of them just about to enter the busy and more serious scenes of life, and it might be some encouragement to them to know that if they were to give him the alternative of encountering the labour difficulties of the days of his youth and those to be faced now, he would infinitely prefer the latter. He congratulated the Royal School of Mines upon the fact that they not only turned out miners and metallurgists, but that they appeared to be able to form the mind to undertake a purely business occupation. He had had some experience of their Chairman—in fact, he had enlisted his services on behalf of an institution he had very much at heart, that connected with the teaching of practical matters in the manufacture of iron and steel—(applause)—and he congratulated the School of Mines on being able to boast of the services of one who did his work so admirably as Mr. Brough. Whatever opinion the company might have formed of the promise his god-father, Mr. Brough, had made in his behalf—that he should say something about the importance and interest of the manufacture of iron and steel—had he known that was to have been the result of his attendance there he would probably have been at that moment somewhere near the latitude of 45 degrees. No doubt they were living in wonderful times. He could look back when the word "railway" was unknown except in connection with the transport of coal on the banks of the Tyne. He could recollect some 50 years ago undertaking a journey of 10,000 miles on the Continent, and it was almost past belief that at that time there were only 200 miles of railway opened out in the whole of Europe. They were all apt to measure the progress of civilisation and the march of manufacture by what the railways had done, and undoubtedly they had done much; but after all, he thought the railways owed a great deal to the iron trade. No doubt railways had changed the face of the globe and the tone of society, but their achievements were a mere nothing in comparison with those in connection with the manufacture of iron and steel. He could remember as a boy travelling from Bristol to Liverpool by what was then called the Irish mail, and they accomplished the journey, including stoppages, in something like twelve miles an hour. That was about one-fourth of what the North Eastern Railway, which, as one of its directors, he naturally looked upon as the first railway in the world, could accomplish. He could also remember the time when the blast furnaces made 50 tons of iron a week. When in America recently he had seen furnaces there that made as much iron in a week as the old blast furnaces in a year. Therefore, they had accomplished 50 times as much as the blast furnaces of the olden times, and so had outstripped the railway, whose rate of speed was only four times that of 50 years ago. He should like to say a word of encouragement to the junior members of the company. He had all his life been looking for the establishment of institutions in all parts of the country, which could provide the works with managers and assistants of scientific education. The day had now come, and the management of the great works of the country would now be entrusted to men, which could deal with the various questions brought before them in a thoroughly scientific and practical manner. In conclusion, the speaker apologised for detaining the company so long, and said that if they had heard anything worth remembering they must place it to the credit of their Chairman. (Applause.)

Professor C. LE NEVE FOSTER supposed it came within the province of the Chairman not only to elicit speeches but also to suggest ideas, and following a hint which had been dropped from the chair he felt inclined to propose that in addition to the book-keeping which had been mentioned the authorities at South Kensington should add a Turkish bath to their Institution. It required only some slight imagination to picture their present instructor in mine-surveying going about among the students with a red cloth around his loins—(laughter)—in the endeavour, as far as was possible in London, to give the students some idea of the actual conditions prevailing underground, which, at the bottom of Dolcoath Mine, were generally admitted to be very much like those of a Turkish bath. He had been asked to respond to the toast, but as he looked around the table he thought it hardly necessary to wish prosperity to those industries, seeing that it was evident that prosperity was with most of the guests. There had been two events of importance during the past year. One, to which reference had already been made, was the terribly prolonged coal strike. Englishmen prided themselves on being practical people, and no doubt, they would find a way out of the difficulty. The day of personal warfare—duelling—had gone by, and he thought the time would come when industrial warfare would be a thing of the past. The second event that he had mentioned and which was brought to his mind by the presence of Sir Henry Wood was the visit of the British Commissioners to the Chicago Exhibition. They would do wrong to separate without making allusion to the wonderful display which greeted the visitors to the shores of Lake Michigan. While, however, they were delighted with what they saw, it was impossible to avoid some little feeling of disappointment at the difficulty of obtaining information about the mining exhibits. In fact he had learned more about mining processes at the Paris Exhibition of 1889 than he did at Chicago. In concluding, Professor Foster expressed his mingled feelings of pleasure and regret—pleasure upon Mr. Brough's account, and regret upon his own—that the Chairman had severed his connection with the staff. (Applause.)

Mr. F. W. RUDLER proposed the toast of "the Learned Societies." In doing so he remarked in cordial terms upon the aid which the old students of the School, pursuing their avocations in various parts of the earth and everywhere confronted with the question:—"How many ounces to the ton?" derived from the knowledge disseminated by the societies. While the School of Mines sympathised and would, he hoped, always sympathise with the learned societies, as practical men they naturally looked with peculiar favour upon those technical associations whose province it was to take science by the one hand and the industrial arts by the other and draw

them to a closer friendship. Science was knowing: art was doing. Science could teach the principle of art: art could teach the practice of science. Science could tell why to do a thing: art how to do it. Thus it was that the associations which brought both together were of the very first moment. The speaker sat down after having invited the company to honour the toast with peculiar enthusiasm. (Applause).

Professor THORPE expressed the obligation of the learned societies for the manner in which the toast had been received. The Royal Society was, he said, exposed to a light as strong as that which beat upon a throne, and it had passed through good and evil days. He should like to bear his testimony to the scrupulous conscientiousness which was exercised in the choice of that literature upon which the ultimate fame and good name of the society would rest. Passing to refer to the Chemical Society, with which he was more closely connected, the speaker said that its management was in the hands of gentlemen actuated by precisely the same spirit as the members of the council of the Royal Society, and that their journal was a record of the chemical progress of the world such as no other country possessed. (Hear, hear.) In every respect the Learned Societies had risen to the sense of their obligation, and from the heartiness with which the toast had been received he felt sure the assemblage recognised to the full, the efforts these societies were making in the spread of natural knowledge.

Mr. G. SEYMOUR proposed the toast of "the Visitors," and in doing so referred to the earlier dinners held in connection with the Royal School of Mines, from a comparison of which with the present occasion he gathered that the institution had greatly improved. He coupled the toast with the name of Sir Henry Wood.

Sir HENRY WOOD returned thanks, expressing at the commencement of his speech the fear that a long course of American oratory had disqualified him for the severe and chaste style only befitting the present occasion. Referring to the British mining exhibits at the Chicago Exhibition, he said that many of them were of great merit, though they were not as many as might have been wished. They contained an admirable selection of the specimens of economical British mineralogy, got together by Mr. Brough. These were afterwards presented to a museum at Chicago, the curator of which immediately proceeded to improve their arrangement and started by removing the labels. (Laughter.) This greatly increased the interest attaching to the exhibits and occasioned a variety of scientific conundrums, some of which, according to the latest accounts, had not yet been satisfactorily solved. (Laughter.)

Professor RÜCKER, who was received with cheers and many of whose sentences were punctuated with laughter and applause, proposed the toast of "The Old Students." Dr. Thorpe and he, he said, had often had occasion to read scientific instruments together, and had generally found, with great satisfaction, that the results were in close accord. Rarely, however, had they been in better agreement than when they simultaneously, but independently, came to the conclusion that the toast entrusted to him was the toast of the evening; and as many of those present were old students it must be the toast which would interest them most closely. But though interesting, the toast was not without its difficulties; for, as a species, the old student had his peculiarities. (Laughter.) In the first place, he grew old very young. There was nothing more beautiful than old age which had retained the vitality and interests of youth, and probably that was why the student always viewed with so much respect the comrade who returned to him some two or three years after he had left the college. (Laughter.) He was, perhaps, of the mature age of 23, but in their eyes he combined a knowledge of the world, with the possibility of taking an interest in athletics. He was to them old, and yet he had all the untold possibilities of future fame. Another point about him was that, although in politics he might have developed into a first-class Anarchist, yet with regard to his old school he was always an uncompromising Tory. (Laughter.) He confessed to the weakness himself. He had never felt quite the same towards his old college at Oxford since they had removed from the middle of the "Quad" a hideous old statue, representing two men in mortal struggle, which was variously interpreted to be Cain and Abel and Samson slaying the Philistines with the jaw-bone of an ass. (Laughter.) Whichever that might be, it was gone now, and it was not so much the ugliness as the moral teaching which he missed. On the hypothesis that it represented Cain and Abel it was supposed to instruct its onlookers that in spite of differences they might be brothers still—(laughter); while on the other supposition it was held to convey a kindly hint from the authorities to the undergraduate that even donkeys might be put to a useful purpose. (Laughter.) Only yesterday he was reading the review of a new book on the public schools, written by various authors, each of whom was presumably an old student of the school he described. According to the reviewer, the descriptions were in all cases the same. No school had ever been so famous, no head masters had ever been so great, no athletes had ever performed more wonderful feats than those of the school of the old student. (Laughter.) Well, he could only hope that this kindly feeling would long persist between the Royal College of Science and the Royal School of Mines and their old students. Only he asked them if they must be unbending Tories to be Tories of the modern, progressive type, who admitted the possibility of adding one good thing to another, and that the highest perfection necessitated a certain amount of progress. This kindly feeling would, he believed, last as long as the old students and the school were alike worthy of each other. Surrounded as he was by old students who would do credit to any institution, it would be ridiculous to attempt to give even a shortened list of those who had fought well in the battle of life. But a few names might perhaps be mentioned. All Her Majesty's inspectors of metalliferous mines, including Professor Foster, had been associates of the school. Professor Kennedy, the president of the Institute of Mechanical Engineers, passed through it. In Metallurgy they could point to such names as Gilchrist, Matthey, Roberts-Austen, Huntingdon and Turner. In Geology, W. Blandford, Judd, Sollas, Topley, and Barrington Browne. In Pure Science, H. Blanford, Abel, McLeod, Clowes, Lloyd Morgan and Percy Frankland. He had been allowed to introduce into the gathering his friend, Dr. Van Rijckevorsel, who had distinguished himself by carrying out magnetic surveys in both hemispheres, in Brazil, in the Eastern Archipelaego, and, nearer home, in Holland. It might interest him to know that they could almost match even his boundless energy amongst the ranks of the old students. So far there could be no doubt that they had a distinguished list of old students and the question might arise whether they were now turning out men who would do similar honour to the school in the future. This was a question rather difficult to answer, but he could say without fear of contradiction that year by year they were turning out men of great ability who were entering upon their work in the right spirit. They were sending now, as in the past, men to all parts of the world. Having referred to the successes achieved in pure science, Professor Bücker, with a word of apology for the length of his speech, said there had been changes in the past, and there might be further changes in the future. They were now awaiting the report of the Commission of the University of London. Whatever the nature of the report might be, its appearance would mark a crisis in the history of the college, for it would probably determine whether they were in the future, as in the past, to work alone, or whether they were to form a part of a still larger and more important university. Whatever might be the result, he firmly believed that, whether alone or in conjunction with others, they would remain in the future what they had in the past, one of the principle technical schools in the country.

Mr. H. BAUERMAN replied on behalf of the old students, regretting the difficulty which the older among them found in keeping touch with those who were coming on.

Dr. VAN RIJCKEVORSEL, in a few appropriate words, acknowledged the kindly reference which had been made to himself, and expressed his appreciation of the cordial hospitality he never failed to experience in England. (Applause.)

Dr. BALL submitted the toast of the Chairman, saying it was quite unnecessary for him to refer to that gentleman's past career or prospect as to his future, seeing that he was so well known to them. (Applause). Like Schiller's typical Englishman he had been everywhere except in paradise. (Applause).

The CHAIRMAN briefly returned thanks. They would easily conceive, he said, that to occupy the chair at the 21st annual dinner was a task of difficulty, seeing that there were 20 predecessors whose fulfilment of the duties of Chairman invited comparison with his own. With all the critics around him, looking to see the effect of the falling of their mantle upon his shoulders, he naturally felt rather embarrassed lest the mantle might smother him. (Laughter.) In conclusion Mr. Brough invited the company to drink heartily the toast of the Hon. Sec., Mr. H. G. Graves, referring to the immense labour he had performed in the arrangement of so successful a gathering. (Hear, hear.)

Mr. GRAVES acknowledged the compliment in suitable terms.

The proceedings then terminated.

CORNISH MINING: CAN IT BE REVIVED?

An Australian Remedy: The No-Liability System as Applicable to Cornwall.

BY AN ANGLO-AUSTRALIAN.

IV.

"A THOUSAND POUNDS to the first party who will touch 1000 feet first in sinking," was the prompt response of Mr. George Lansell to the miners' hopeful, homely shibboleth (referred to in the preceding chapter), and the answer also to doubters of the value of deep sinking at a most critical period in the mining history of Victoria. That timely offering was appreciated, new life was infused into the erstwhile gloomy community, and Bendigo has reason to be proud of its position and of the men who thus helped to build up its fortunes.

It was well for Victoria, for Australia, and mining generally that men like Mr. Lansell, the late Mr. Robert Oswald, and others of mining fame in that colony, were to the fore when the great question of deep sinking hung in the balance. One of the most pleasing things to note is the fact that their efforts have been rewarded, that the industry which they helped to build up they themselves have lived to enjoy the benefits of, and thousands of others besides. Of such it becomes one to speak with feelings of profound respect as of men who have truly "left their footprints on the sands of Time" for others to "take heart and try again."

With new hopes and fresh courage the hammer and drill were set going, and the hearts of the community beat high, as may be inferred, when happily their hopes were not long deferred, and new ground brought steady yields, which proved the soundness of the opinions put forth in favour of "going down."

In 1859, as mentioned previously, there was little or no machinery in Victoria. To-day the mining machinery in that colony totals in value almost two millions sterling, and it goes on increasing. Latest news gives a gratifying account of a new battery, which has just been started close to the "Red, White, and Blue," a mine that had been neglected for years, and is now amongst the best dividend mines at Bendigo. There are 105 head of stamps (21 set of 5 each) capable of crushing about 1400 tons a week, a splendid average for that district. This latest addition is also the result of Mr. Lansell's enterprise, and the undertaking is one that is sure to command success, and must be of great benefit to surrounding mines. A short description of the battery and its improvements may not be unwelcome at this point. "After the 'ripples' the crushings are passed over Halley's shaking tables, then to blanket tables ingeniously arranged so as to be easily raised by balanced pulleys to admit of their being washed without having to take off the blankets, the sand is thus washed off into troughs (after the manner practiced at the Johnson's reef), 1000 canvas trays being required. The battery being over 220 feet long, a small tramway is conveniently placed for conveying the heavy shoes and other interchangeable parts and requirements with ease and economy. There are four engines of modern types," built for economy and efficiency, with boilers, &c., in keeping, after the manner of the New Chum Consolidated Mine which led the way for economical steaming and engine work. "Tramways from adjacent mines have been laid" and the results will be matter of interest when returns come to hand. Thus mining life continues to improve at "Quartzopolis," as Bendigo is sometimes not inaptly termed. Would there were half a dozen more such districts, and that some such life could be infused into Cornish mining! Who knows? Perhaps the day may come when the columns of *The Mining Journal* will be filled with glad tidings of prosperity.

Behold, what deep sinking has done for Bendigo and what good laws and true mining can do! This is what any one may consistently say of that portion of our Empire and of other parts of Australia. Up to 1892 there were several shafts down below 2000 feet and some well on for 3000 feet, dividend mines too. The writer was down at the 2800 in Mr. Lansell's "180" mine, which is now down to 3000 feet, or close to it. The results of crosscutting on the new levels in the latter will be watched with keen interest at the increased depth, and will have an important effect. There are also many mines of depths varying from 1000 to 2000 feet paying dividends, or else paying their way with good prospects.

Not the least pleasing feature of mining in Victoria is the fact that old mines that had been abandoned years ago are now turning out splendidly, which may be accounted for in a measure by the improvements introduced since the former time, such as air compressors and rock drills, greater skill on the part of managers and men, better crushing and amalgamating appliances, and, what is very important indeed, the treatment of pyrites. In saying so much, however, it must not be taken for granted that perfection is reached; on the contrary there is still much to be done towards more economical crushing, amalgamating, and concentrating.

The opening up of old ground bears upon our subject materially—namely "Cornish Mining." In the more prosperous days in Victoria half an ounce to the ton of gold would not be looked at; to-day 4 dwts. can be made to pay expenses in the New Chum Consolidated and other mines in which these improvements have been introduced in the way of high pressure boilers, compound engines and condensers, careful attention to underground work, air-pipe-mains, and pressure, (80 lbs. air pressure for rock drills is the practice in Victoria) together with close attention to the batteries and their adjuncts. These are the points prevailing now in Bendigo, where anyone who can judge of such matters and will take the trouble to see, will find as intelligent management as perhaps one can find in any part of the world.

Inasmuch as dividends must always be a standard, the "Red White and Blue" mine referred to above may be instanced as one of the revivals—the revived perhaps is better—and a glance at its performances will show what an old mine may do. Over £80,000 in dividends in about two years, besides clearing off debts, adding to its machinery and prospective development. The capital being small the results as regards rate of dividend are immense. Other instances could be adduced, all solid proofs of what is being done and can be done under the no-liability system and good mining laws.

Surely we have no need to introduce contentious phrases and fanciful theories into any proposals for the better working of mines and alteration of laws for mining in this country. The "Nationalisation of Mines," as put forward by some parties is an impossibility, the taking over the royalties and rights of leasing (with fair compensation) by the State is within the bounds of practicability, and can be referred to as a well-tried system that has not been found wanting. In the one there is a feature which would not be workable, the making of the State into an employer, which would indeed be "confusion worse confounded," as regards mining at any rate, in the other system, that of Australia, of Victoria, more especially, there is nothing of the sort, and given like privileges here, mining would certainly make headway. No one doubts the sincerity of those who are moving in the new proposed scheme referred to on behalf of British mines, but mining men are too practical to have act or part in proposed measures that can do no good and may block the way for possible concessions. The Victorian mining laws can help towards the latter, and once tried we may expect many of the other advantages, such as departmental changes, subsidies (under supervision) and adjustment of royalties on the divisable profits system in lieu of that which takes royalty off the gross proceeds of a mine.

There are other important points to enter upon before closing the subject of "Cornish Mining," and Australian systems, such as the "eight hours system," tributing, State aid to the mines, value of mining to the State as an industry, with some remarks on the numbers and position of the mining population as compared with others in Victoria, together with the important part played by the mining industry during the recent upheaval in financial matters, all of which must sooner or later be taken into account in regard to Home Mining.

OUR INQUIRY COLUMN.

TO CORRESPONDENTS.

Correspondents will please take note that all communications will in future be answered in this column and not through the medium of the post. All questions and replies should be accompanied by the name and address of the writer.

QUERIES.

A SURFACE OWNER.—As a subscriber to your paper may I ask for some information as to the power allowed by law in this country to royalty owners, or the lessees of royalties to work coal? I always understood that owners of coal possessed exceptional privileges to sink shafts and to erect machinery to win it. But I also thought that they were restricted to what was termed "reasonable means;" that they were limited to only *temporary* disturbance of the surface; that the addition of plant to manufacture, or to make the product "merchantable," or the accumulation of large rubbish heaps, &c., constituted "an excessive interference with the surface owner," and was not warranted by law. I should also like to learn whether there are restrictions as to the working of coal from other royalties—*i.e.*, neighbouring or more distant ones connected underground by the shafts sunk on land under which the coal has, say, become exhausted? In the latter case the surface owners have already borne the inconvenience, and it seems unreasonable that they should also have the coal from other royalties worked through shafts sunk on their land.

Z.—Perhaps some of the makers or users of petroleum engines will be good enough to inform me, through your columns, if they are adapted as locomotives for hauling wagons underground, and if so, do they give off any objectionable fumes, and thereby vitiate the air in the mine?

RIEBEL.—Will some reader kindly give me the name and address of the manufacturer of the Welman centrifugal pumps, or Welman dredge?

STUDENT.—Will any of your readers tell me what is the best book, in a cheap and handy form, containing an explanation of mining terms?

REPLIES.

EDYE.—We have gone to some trouble in endeavouring to find out the address of the firm you mention, but have been unsuccessful.

R. N.—You have omitted to send your name and address.

WALES.—(1 and 2) We would rather not advise you.—(3) Please refer to this week's issue.

D. A.—The company is unknown to us.

ENGINEER.—The reefs are stated to be well defined, and to yield 1½ ounce to the ton. The geological characteristics are favourable to permanency.

A SURFACE OWNER.—The owner of land in this country is *prima facie* the owner of the surface right down to the centre. Where, therefore, mineral property is owned as a distinct possession, apart from the surface, it is held either by express grant, or exception (that is to say, the grant to the owner of the surface, excepted the mines), or by virtue of acts of ownership which have created a prescriptive right by lapse of time against the owners of the surface. In this last case those Acts themselves have established the right to work. The general rule is that when anything is granted the means of attaining it and all the fruits of it (so far as the power and estate of the grantor extend) are also granted. That is to say, the rights following from the separation are the reasonable consequences which follow from the right of the owner of the property to make use of his own. It is the right of necessity. From this it follows that the ownership of mines, apart from the surface, gives the right to enter and do that which is necessary to gain the mineral and no more. The incidental power implied by such grant could be nothing more than what was strictly necessary for the convenient working of the mine. The mine owner has, moreover, right to the use of the way which by his mining he has created, but he has no right thereby to increase the burden of the surface owner by bringing thereon mineral from adjoining mines; nor has he any right to add machinery to the surface for changing the nature or character of the mineral gotten. Surface Owner should ascertain the exact conditions and terms of his own grant before moving in the matter, and it is also material to remember that his rights may depend on the custom of the particular county in which his property lies.—[It will be seen that we have in this column inserted both the query and answer for the sake of clearness.—ED, M. J.]

SUBSCRIBER.—The mark on the lable—"best steel"—is clearly an indication of the material of which the goods are composed, and if it is false the shopkeeper may be prosecuted under the Merchandise Marks Act. Any one may institute a prosecution. You should apply for a summons to the magistrate for applying a false trade description to goods, and at the same time you may obtain a search warrant from the magistrate authorising a constable to enter his shop and premises and seize all the goods which he has in his possession falsely marked which may be found anywhere about his house or premises.

W. F.—The gentleman you mention is not connected in any way with *The Mining Journal*.

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THE CHOICE OF CONCENTRATION MACHINERY.

By Mr. E. H. DAVIES, F.G.S., M.E.,
Author of "Machinery for Metalliferous Mines."

PERHAPS one of the most critical questions in the history of a mine is that of the choice of concentration machinery. The wealth of the mine has or should have been already proved and the underground workings have developed a sufficient body of payable ore to ensure the continuous running of the mill for years to come. We assume that the mine is in this condition, and it is only when it has attained this stage that the directors are justified in spending large sums of money on the purchase and erection of machinery. Far too often, however, the board are misled by unwise counsellors, with the result that machinery is ordered before the quantity of ore has been proved, and before sufficient experimental trials have been made upon it to test its true character. Rash statements are made of the prospective riches which are to flow into the coffers of the company "when the mill is at work," and the directors excited by these and hurried by their desire to declare dividends, order machinery, not only without counting its cost, but also without studying its applicability to the purpose in hand.

Recently, in an article on the "Management of Mines" (published December 2, 1893, in *The Mining Journal*), we pointed out some of the dangers arising from defective management not only on the part of the board, but also on that of the local manager. No mismanagement creates such ruin as that occasioned by a mistake in the choice of machinery. The money available is in all probability limited in its amount, and is just sufficient to cover the erection of a mill, and the carrying on of the development work in the mine until such times as it is hoped the receipts will cover the expenditure. Now, if any mistake is made and more money wanted in order to purchase additional machinery or to carry on the mine until the mill is at work, it is very evident that financial difficulties will arise, and some expedient for raising additional capital must be resorted to. But these expedients are not always successful. Disappointed shareholders are difficult to deal with, and are apt to refer to the enthusiastic speeches and reports which have already been made. Often they become sullen and either threaten liquidation or form themselves into a committee of enquiry, and, disregarding the old adage relative to changing horses when crossing a stream, proceed to sweep away the old board, change the officials, and throw the whole undertaking into a confusion, which too often ends in disaster. Many a really and intrinsically valuable property has been thus abandoned, and those whose duty it is to examine into various proposed mining schemes can with ease recall many a proposition for the reopening of a mine, which has been closed for the above reason, upon which some £50,000, or so, had been spent, and which could now be obtained for one-fiftieth of that sum. So often is this the case that it is almost a proverb that a mine rarely succeeds until it has wrecked three companies.

It is not, however, in many of these cases the mine which has ruined the companies, but the companies which have blindly wrecked themselves, and probably upon this very question of machinery.

Now, mining and ore concentration are two very different things, and it is quite possible to obtain a first rate practical mine manager, who has spent the greater part of his life underground, and who can develop any metalliferous mine up to its maximum output at a minimum cost per ton, but who is nevertheless utterly incompetent to undertake the mechanical concentration of the mineral, and the preparation of the ore for market. These points demand a skilled intelligence and a special scientific training.

The question of the best process to be adopted cannot be decided by the mere *ipse dixit* of the manager, and, indeed, no firm of machinery makers of good standing will supply a complete concentration mill before satisfying themselves that the ore can be treated to the best advantage by the process in question, for the profit to be made on one transaction by the simple sale of machines is but little in comparison to the damage which would be done to their reputation by supplying machines little adapted to the work in hand. In other words, they will not take upon themselves the discredit due to the ignorance of the manager.

The question thus arises as to the best mode of procedure, and this is capable of a very practical answer, based on the assumption that the board would prefer skilled advice in addition to that which their manager is able to give them. It is that a sample of, say, 10 tons of the crude unpicked ore, just as it comes from the mine, should be sent to the experimental works which all large firms of machinery makers have in connection with their establishments.

The consulting engineer of the company should attend at the experimental trial. The final type of machinery, the methods of classification, and the whole details of the mill to be erected can then be based upon the results obtained from this actual test trial of the ore. We are well aware that all this takes up time, but the time thus absorbed is nothing to that wasted by machinery ill suited to the ore to be treated, to say nothing of the loss of money so incurred, and the daily loss of units of rich ore which would otherwise have been saved.

The truth of the proverb that a small leak will sink a big ship is apparent to all, but far too little attention is paid by rough and ready mining men to the small daily loss of valuable concentrated ore due to the combined inefficiency of men and machines. A flagrant example of this is before our eyes in the stream tin works of Cornwall, which employ large numbers of men and save annually many tons of tin ore which have been allowed to escape from the concentrating appliances of the neighbouring mines. In 1891 the streamers on the Portreath river alone saved 330 tons 6 cwts. of tin ore, valued at £10,469. This small loss, in short, is really a question involving life or death to many a mining company, which with it cannot struggle along, but without it could manage to make both ends meet. It is the leak which has caused many an otherwise sound undertaking to be wrecked.

Now this loss does not go on secretly, it can readily be checked and controlled, and the board of directors can, if they wish, keep an accurate account of every unit of mineral produced by the mine, and of every unit obtained from the mill, and of every unit lost in the process of concentration, and nothing is more desirable than that this should be done not only as a check upon the local management, but also for their own satisfaction and that of the shareholders, and as a means of increasing their revenue.

Whether the mine is gold, silver, lead, tin, copper, or other mineral the general system is the same. The ore, after passing through the stonebreaker, must be carefully sampled either by a special machine or by hand, so as to arrive at a correct estimate of its metallic contents as it arrives from the mine.

Let us take, for example, an ore of lead containing 10 per cent. of lead, the mine producing 50 tons of ore per day, equal to 500 units of metal. If it were possible to recover the whole of the metallic contents, then the mill should daily turn out 10 tons of 50 per cent. concentrates. It is, however, impossible to obtain this degree of perfection. Some loss will always occur. With lead ore it ought not to exceed two units, and should be much less, so that the above mill would daily receive 50 tons of ore, containing 10 units per ton, equal 500 units, and allowing for the loss of 2 units per ton, would turn out 400 units, equal to 4 tons of pure lead or 8 tons of 50 per cent. concentrates. It is evident, therefore, that if the ore sent to the mill is weighed and sampled and the concentrates received from it are treated likewise, the difference in the metallic contents of the one and those of the other will represent the loss in treatment. The amount of this loss will depend upon the skill of the operatives and the perfection of the machinery. The latter is a fixed quantity to be ascertained by assay. The former is a variable one, and can be controlled by a proper system of observation and management.

In our opinion too much importance cannot be attached to the choice of the machinery, nor too much care taken to ensure that machinery chosen is absolutely the best possible for the treatment of a given ore. It is only by this careful and intelligent choice that daily difficulties, ending in final disaster, can be avoided, ruining a mine which in other hands would have been a successful venture.

Enough has been already said to show the immense importance of this question, and on a future occasion we hope to have an opportunity of giving a few general remarks on the choice of machinery for the minerals which are most commonly met with.

BRITISH COLUMBIA'S MINERAL WEALTH.

HER GOLD MINING RESOURCES.—IN NEED OF CAPITAL.—A FIELD FOR ENTERPRISE.

Interview with Mr. W. PELLEW HARVEY.

IN this article we make a further attempt to bring to the notice of our readers and of those interested in the mining industry the claims of British Columbia. Our readers will remember that during last year we published a couple of interviews dealing with the same subject, and in those it was proved beyond dispute that this colony possesses enormous mineral wealth; that it has resources which we cannot afford to despise; that it is worthy the attention of the capitalist and scientist, and that, if properly opened up and developed, it may become a prominent and most productive centre of mining. Hitherto it has been too much neglected by the British investor and engineer, either through ignorance of its hidden wealth or through an unreasonable spirit of scepticism. We have endeavoured, as far as in us lay, to remove the former, and the only means in our power to dissipate the latter is to endeavour to confirm from varied sources of undoubted authority the information we have already imparted through these columns. To this end we have interviewed a gentleman who knows British Columbia thoroughly, who can pronounce an authoritative judgment upon her mining wealth, and who is able to form a guiding opinion upon the future capabilities of the colony.

Mr. W. Pellew Harvey was born at Truro, Cornwall, in 1864. He received his education at the Grammar School of that town, but at the age of 16 commenced to learn assaying with his father, who represents Messrs. Vivian and Sons, of Swansea. Two years later he went to the latter town in the employ of this firm, where he remained for several years, afterwards leaving to accept an appointment at Redruth. In the year 1890 he went to Golden, in British Columbia, where he started a business of his own as assayer and chemist, after first serving in this capacity to the Golden Mining and Smelting Company. Fortunately, he was very successful in business, and in 1892 was selected by the Provincial Government to make tests on the ores sent by them to the World's Fair at Chicago. He was for three years editor of the *Golden Era*, a mining newspaper published in Golden.

He is now in England on a pleasure trip, and, at the request of Mr. Beeton, the Agent-General of British Columbia, has consented to exhibit at the Agency, 33, Finsbury Circus, the numerous mineral specimens he has brought over with him, in order to show the varied resources of the colony. We have had the pleasure of inspecting these, and found them extremely interesting. Many of the silver ores contain hundreds of ounces to the ton, whilst the copper ores vary from 10 to 70 per cent. The gold ores on view are chiefly refractory, and contain from 14 dwts. to 30 ounces per ton of 2000 lbs. One very fine specimen, which, by the way, belongs to the Government, and came from the creek known as Williams, in Cariboo, is nearly pure, weighing 12 ounces 6 dwts. 12 grains.

The first query we put to Mr. Harvey was as to the period over which his acquaintance with British Columbia extended.

"I have been in British Columbia nearly four years," he replied, "and have made acquaintance with its mineral resources through my profession as an assayer and chemist."

"I presume that gold is the chief metal of the country?"

"Yes."

"What are the principal gold fields?"

"Well, Cariboo, Lillooet, Wild Horse, and McMurdo. These are on the mainland. There is also Alberni, on Vancouver Island."

"Which of these is the principal?"

"Cariboo. For over 30 years vast quantities of gold have been taken from the several creeks in this section of the country, the most notable being Williams and Lightning Creeks. In the first-named, notwithstanding the period over which operations have been conducted, at the present moment the owners of hydraulic claims are making 50c. per cubic yard of gravel."

"Which of them pays the best?"

"Ah! that is a difficult question to answer. Wild Horse Creek has in former years paid remarkably well, but at the present moment the accounts of companies not being at my disposal, I should say that Cariboo Goldfields are more profitable to their owners than those of other districts."

"What is the general cost of treatment?"

"About 12 cents per yard, In this I include general working and office expenses."

"Are you well off for water, timber, labour, &c.?"

"British Columbia is remarkably well off in this respect. I do not believe that any other country in the world is superior."

"Are you well supplied with capital, or could you do with more?"

"Now you come to business. Our trouble, and only one too, is this very question concerning capital; most of the mines are being worked by miners of moderate means. As soon as any difficulty arises and extra machinery is wanted, their pockets cannot run to the necessity of the case, and there the matter ends; whereas if capital were available, no delay would occur, and the impetus given through the working of one big mine on a scale worthy of its products would help along other smaller ventures."

"Who are the principal owners of the mines, English or Americans?"

"Of gold, Englishmen; of silver lead, Americans."

"Have you plenty of modern machinery?"

"Of late we have improved in this respect, but my reply to the question of 'capital' holds good here."

"Is the ore refractory or free milling?"

"In ores at surface we find free milling material, but as development proceeds they become refractory."

"What are the latest discoveries in respect to gold?"

"The Alberni gold fields on Vancouver Island."

"What is your opinion of the future of the gold mining industry?"

"I have the highest opinion of the future of gold mining in the colony, and as soon as Englishmen venture there and employ competent engineers and take moderate precautions as regards investments they will think as much of the province and its mining prospects as they now do of South Africa and Australia."

"I suppose the mining is chiefly quartz mining?"

"Gold mining is chiefly alluvial, but in time this will change."

"Have you any tailings, and have you found a method of treating them successfully?"

"Yes, we have, and I believe that for refractory leavings the cyanide process should be introduced."

"What is your opinion of the mining laws of the colony? Are they favourable to the progress of the industry?"

"The mining laws of this country, as of others, are not perfect. Experience will lead to amendments, but, taking one thing with another, there is very little to complain of. The provincial Government is doing all it can to build up the great industry—mining—and in its efforts the forward steps towards the right direction are appreciated. The officials are reasonable and desirous of doing what is best for the country generally."

"Now, what are the prospects of silver mining in the colony?"

"No country in the world has better prospects so far as silver lead mining is concerned. The whole of the Kootenay county, east, west, north, and south, is full of galena. Many big mines are producing large quantities of ore at the present moment, and on account of the exceedingly high percentage of lead and silver, the depression in the price of the white metal, although detrimental, will not materially hinder our progress, and if President Cleveland succeeds in taking off the import duty on lead, which amounts to 1¼ cent per lb., this advantage will nearly compensate for the drop in silver values. It may be interesting to state that my assay on the ores sent by the British Colombian Government to the Chicago World's Fair, averaged as follows:—

District.	Silver. Ozs. per ton.	Lead. Per cent.
West Kootenay	237·00	48·00
Slocan	198·00	69·30
Illecillewaet	111·00	64·00
Nakusp	85·00	60·00

and so on. The present shipments, amounting to nearly 200 tons per diem, are made to the United States. A little energy on the part of English smelting companies is only needed to avert this and to bring the ore to their furnaces here in England and Wales."

"Which are the principal silver mines?"

"Lucky Jim, Great Western, Dardanelles, Bonanza King, Payne, and many others in West Kootenay, and North Star, in East Kootenay, are amongst the principal ones."

"Is the country rich in other minerals?"

"Yes; in copper, coal, iron, with platinum and a little nickel."

"How are you off for means of communication?"

"Well, in the East Kootenay, we have a direct connection with the Canadian Pacific Railway at Golden, and from thence *via* the steamers of the Upper Columbia Navigation and Tramway Company south to Fort Steele and other important mining camps *via* Kootenay river to Jennings in the States, where we come in touch with the American line, the Great Northern. In West Kootenay we have two splendid water-ways into the States, one by the Columbia and the other on the Kootenay, connecting with the Great Northern and the Spokane Northern. The Nelson and Fort Sheppard Railway is now in connection with Nelson and Spokane. The Spokane Northern are building up into British Territory, and will this fall be in Nelson, the capital town of West Kootenay. This line is to be extended up the Kootenay Lake to the Lardo, and will be joined at Kaslo by a short line running into the Slocan district."

"Does not the Canadian Pacific Railway touch the country?"

"Owing to the enterprise of this great railway company many mining sections hitherto inaccessible are now easily accessible. Other railway companies are throwing out their branches, so that, combining these advantages and the richness of the province in minerals, I firmly believe that British Columbia's future is assured, and he who at the right moment takes a share in the progressive movement will undoubtedly be handsomely repaid. The climate is excellent, living not excessively high, and for commercial purposes the railway and steamboat connection with the mother country is very advantageous. We are also in touch with China and Japan, by means of the steamboats of the Canadian Pacific Railway Company, and with those of the Huddart line with Australia, all sailing direct from Vancouver."

THE IMPROVEMENT OF TRADE IN THE UNITED STATES.—NEW YORK, JAN. 28.—Bradstreet's and Dun's commercial agencies report from all sections a further moderate industrial improvement. It is said that if the tariff question is adjusted a quicker and more substantial revival may reasonably be expected. All business classes, however, are disappointed that the Tariff Bill is unexpectedly jeopardised by the amendment regarding the income tax feature. Manufacturers and investors are now more disposed to restrict operations until the action of the Congress is settled. The reserve in the city banks above the legal requirements has further increased to $109,000,000. This proves that, while many industries have resumed on account of the exhaustion of supplies, there is still no general proper commercial demand for money. The pressure of unemployed capital is therefore strongly felt in the market for high class bonds. Messrs. Kuhn, Loeb, and Company have issued a circular regarding the Erie reorganisation scheme in which they suggest the issue of 4 per cent. instead of 5 per cent. bonds, and that the bondholders receive perpetual income bonds at a compensation, and that provision be made for taking up all bonds issued subsequent to the consolidated series. Louisville and Nashville shares have been strengthened by a rumour that the agent of the English stockholders has completed his examination of the property, and has decided to report favourably.

WUNTHO GOLD FIELDS—AGAIN!—We hear that several prospectors representing syndicates both in India and Burma are now exploiting the gold fields in the neighbourhood of Wuntho with varied success. Some are quite sanguine that they have unearthed a "mare's nest," while others are of opinion that the gold, though in existence, is not sufficient to induce a large expenditure; this was also the opinion of Dr. Fritz Noëtling of the Geological Survey of India. A Calcutta syndicate has even gone to the length of securing the services of four Australian miners who have also left for the field. We would, however, advise speculators not to dabble in these ventures on the mere reports of private prospectors, but wait until Government furnish a report preparations for which are now being made.—*Indian Engineering.*

MEETINGS OF MINING COMPANIES.

CENTRAL AFRICAN AND ZOUTPANSBERG EXPLORATION COMPANY, LIMITED.

Opening up the Dark Continent.—An interesting summary of the company's operations.

THE adjourned ordinary general meeting of the Central African and Zoutpansberg Exploration Company (Limited) was held on Tuesday at the Cannon-street Hotel, the chair being occupied by Captain LOVETT CAMERON.

The SECRETARY (Mr. Finlay A. Macrae) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen, I think you will all agree with me, that we could not have done better than adjourn the meeting as we did, in order that you might make the personal acquaintance of Mr. Foa, who has been working for us, and protecting our interests on the Zambesi. Both Mr. Foa and Mr. Hanner have served us with zeal and devotion, and have been unflagging in their exertions, often risking their lives for us, and I feel sure that you all appreciate their work and loyalty. They have worked on the foundation laid down by Mr. Rankin, with whom Mr. Hanner left England, and their work has secured to us a commanding position and influence in Central Africa. No better proof of their belief in the future, and the value of the countries in which we are interested, can be afforded than their willingness to return thither, notwithstanding the hardships and dangers they have so cheerfully undergone, and again maintain and protect our interests after a brief holiday. The Chairman, at this juncture, broke off his speech in order that the meeting might hear some remarks from Mr. Foa.

Mr. FOA at the outset stated that since the beginning of 1891 Mr. Hanner and he had been travelling through the country in which the company was interested, a tract of land 500,000 square miles in extent, in the only way in which such a country could be properly explored, that was to say upon foot. Such travelling naturally occasioned a great deal of hardship and fatigue. Those details, however, he would not enlarge upon. He would not mention how many times they had been without food, and the number of camps they had called "starvation" camps. The consequence of these journeyings, which occupied about three years, was a perfect knowledge of the country—or at least as perfect a knowledge as it was possible to get—of its mines, its prospects for the future, and of the habits of life and of trading prevailing there. Not only had he studied the country from a geographical point of view, but also with the intention of turning its immense natural resources to the profit of the company. In enumerating the products of the country he would commence with gold, which had been washed by the natives for many years. They had disposed of it in small quantities to the Portuguese, and it was only because the latter had treated them unfairly that the operation was discontinued, which happened about the year 1882. With a view of testing the resources of the country in this respect he had carried out some washings on his own account, and some of the samples thus obtained he had brought home. After closely defining the gold-producing area of the company's territory the speaker passed on to refer to the rich products of coal discovered there, which, he said, was a surface coal, and upon that account easy to work, and would probably be largely utilised by the Flotilla Company for their steamers. Already the engineer there had extracted some 20 or 30 tons, and there was no doubt that after working operations were commenced there would be enough coal there to furnish all the stations along the coast and to found a new one. In addition to coal, iron and copper were very plentiful in the country and would, no doubt, become very profitable under an improved system of transport. Recently some great improvements had been effected in the means of transport available, as was shown by the fact that whereas a short time ago it took a year to send off a letter and have it answered, the same could now be done in two or three months. It was difficult to over-estimate the importance of this improvement upon the development of the country. If the company were to turn the resources of the country to their advantage it was absolutely necessary for them to commence opening it up in a practical way now. They had an immense tract of land, which, in a very short time, could be made the basis of a very rich and prosperous undertaking. The only course, however, was to commence operations at once; for what they would not do, other people would. (Applause.)

The CHAIRMAN, continuing his speech, said:—I am sure we are all very thankful to Mr. Foa for the graphic way in which he has sketched the work he has done. In the report, which has now been in your hands for some time, and which, I presume, you have all carefully studied, you will have received such an amount of information as I hope will have convinced you how valuable our assets are, and how, ere long, we may expect a large return for the capital we have invested, the work we have done, and the patience we have displayed. The subjects on which I have to speak to you are:—1st, the mine in the Transvaal; 2nd, our general position in Central Africa; 3rd, the companies in which we have interests; 4th, our land possessions. As to the mines in the Transvaal, we have properties there which, though not at the moment giving us any return, are of value, and with the increase of the means of communication, and the general development of the country, will become more and more valuable. The three mining properties, the Frischegewaagd, Murchison Crown, and Klerksdorp, have been kept in hand at a minimum of cost. There have been several approaches made to our board on the subject of the Frischegewaagd property, one of which had arrived at a stage which would have enabled us to lay it before you for your approbation except for the opposition of one person on the other side. I now hear from the Transvaal that we may shortly expect another offer; this, I trust, will prove satisfactory. There can be no doubt that in this property we are possessed of an asset worth much more than the value at which it stands in our books. As to the Murchison Crown property, you will most of you remember the rich quartz which was brought to grass at the very commencement of operations, and which remains stacked until such time as a mill is erected within a sufficiently close distance to enable it to be treated at a profit. Owing to unfavourable reports the workings have been discontinued; but a few months ago Mr. Frecheville visited the mine and reported that the footwall of the reef was clearly defined at the end of the old workings, and recommended our sinking on the footwall, and then driving along it in the direction of the part whence the rich quartz previously referred to had been taken. This work is now being carried out in the most economical manner possible, and from time to time we have found broken reef matter carrying gold on the footwall, which has continued without break throughout. The latest news is that the drive is being continued, and gives similar results, though we have not yet reached the point where we expect to strike the reef, though, judging from similar and analogous cases, I think there can be little doubt that we shall strike the reef again in full body and value, and, if so, on the completion of the Silati Railway, this ought to prove a most valuable property. As to our Klerksdorp property, we are keeping possession of it. One of our shareholders has been in that district, and can bear testimony as to its value. As in the previous cases, your directors believe that here also the right game to play is the waiting one. With increased facilities of communication—the Klerksdorp Railway is now sanctioned by the Transvaal Government—and the improved knowledge as to the treatment of the ores which is being daily gained at neighbouring mines, this property is also increasing in value. The increased outputs from the Witwatersrand district, and the solid progress made, must sooner or later again attract much capital to the other districts of the Transvaal in which we are interested. I must now speak of our general position in Central Africa, which is the result of considerable foresight in choosing our base of operations. If you look at the map on the wall you will see how Nature has pointed out the lines in which commerce must flow, and on which development can be carried out. I mean along the rivers Zambesi and Shire, and the line of the great lakes Tanganyika and Nyassa. If you will allow me I will point out how far these lines are available. [Here the Chairman traced upon the map the lines to which he had referred.] The great advantage, of course, of water over land carriage is that Nature provides the permanent way, while we have only to provide the rolling (or rather floating stock) in the shape of steamboats and lighters. You will also see how very great advantageously the countries in which we are interested are situated in comparison with those of similar companies or corporations. You will also notice that our Zambesia territory is practically bisected by that river; that one shore of the Tanganyika is in the territories of the Katanga Company, which can also be easily reached *via* the Zambesia and Loangwa. As to the Katanga Company, whose enormous territorial possessions you see well defined on the map before you, its position is so fully set out in the report that I need say but little about it at present; if, owing to the unfortunate termination of Hodister's expedition, we are as yet without material returns, an immense amount of preparatory work has been done, and very shortly we may expect to stand in as favourable a position as the other Belgian companies. The commercial syndicate of Katanga, in the employ of which the gallant Hodister lost his life, is about to recommence operations, and plans are being developed for the placing of steamers on Lake Tanganyika, for the establishment of stations, for the collection of india rubber and ivory, which, in the Kasai districts, has already proved profitable, and for the erection of a telegraph line from the Atlantic to the Tanganyika. When you consider that 20 years ago this country was unknown—it was only in 1874 when I made my way from Nyangwe southwards to Kilemba mainly through a country where not only was the European unknown, but where the Arab merchant from Zanzibar or the Negro trader from Angolar had never penetrated, you will see how phenomenal has been the progress that has been made. One cannot expect immediately on the opening up of new countries to realise profits, excepting by selling the land and other rights one has obtained at enhanced prices, sometimes this is the best method to employ, but for ultimate good results, fairly and honestly achieved, I think the policy pursued by the Belgian Congo Company, viz., that of opening up of the new country by profitable commercial operations is most sound, and the careful development pursued under the auspices of Major Thys will, I feel sure, result in a very few years not only in multiplying the capital value, but also paying a good interest on this increased capital value. Pardon me now if I make a digression which seems somewhat egotistical in what I say, but I have played some part in the history of the development of Africa, and from my own personal knowledge I can perhaps give you some interesting information. In 1874 I was so impressed with the future value of the countries which I had already traversed in Africa, and especially of those in which I then found myself, that, as I told you the last time I had the pleasure of addressing you, I took the step, as I then considered and still consider the proper and right step, of annexing them to the British Crown, subject to the approval of both Houses of Parliament. That approval was not given, and the fact of my having done so was never officially laid before the Lords and Commons, though it has been alluded to in different debates on African matters. I, in passing through the territories which now belong to the Katanga Company, passed through grooves of nutmegs, saw many different vines, trees, and plants producing indiarubber, saw others affording valuable gums, fibres, and oils, found in the possession of Arabs gold which had been collected in the neighbourhood of Msiri's capital, obtained specimens of coal and cinnabar, besides passing through districts where iron was plentiful, and finding the copper of Katanga proper an important article of commerce, and all this in countries which were intersected by rivers, with large lakes, and above all where the populations, although up to that time ignorant of the outside world, were relatively higher in civilisation than many people who were in constant contact with Europeans and Arabs, who were industrious and patient, were skilful workers in metal, and who the moment they saw the products of our English looms and factories became desirous of possessing them. Ivory was plentiful throughout and elephants abounded. That wise and far-seeing monarch, Prince Leopold the Second, King of the Belgians, became acquainted before I arrived in Europe with the letters and despatches which, whenever the opportunity occurred, I had sent home to H.M. Government and the Geographical Society, in which I had advocated both the formation of an International Association, and shadowed out plans for the formation of chartered companies, and soon after my return to Europe, which please remember was in 1876, the first conference on African matters took place under his auspices at the Palace of Brussels, in which I took part. The outcome of that conference was the formation of the International Association, mainly promoted and of which the expenses were mainly defrayed by King Leopold, to whom, more than to any other man, we are indebted for the wondrous opening up of Africa which we have since seen. In connection with this International Association it was at first proposed that H.R.H. the Prince of Wales should be President, although for political reasons—politics as I have always maintained have been the greatest hindrance to the development of Africa—Her Majesty's Government objected to his accepting the position, and at a meeting at Marlborough House I remember H.R.H. pointing out to that great pro-consul, Sir Bartle Frere, who was about to start for South Africa there to place the coping stone on his great career, the Zambesi as the frontier of that Austral Africa over which he was to rule. That Austral Africa largely under British Dominion is now becoming an accomplished fact. I also spent some considerable sums of money on the preparation of a charter and endeavours to obtain the same, which would have secured to this country large areas in Africa which have now passed under other flags. Since that year of 1876 Africa, which was then thought but little of, has occupied the attention of the statesmen of Europe, among others of Prince Bismarck, whose present reconciliation with his Imperial Master is an omen of happy augury, and Africa has been more or less definitely portioned out among the European Powers. The political voice of European has spoken, and we must recognise its decision. Though I was unable to secure for this country the enormously preponderating influence at which I aim, I at once recognised the advantages which could be reaped for our manufacturers and merchants by a frank and loyal acceptance of the various decisions which have been arrived at by the Conferences of Berlin and Brussels, and through consultations between the governments of the civilised world. I saw that the general principles of delimitation of spheres of influence, &c., being decided on, the jealous scrambling for territory which we saw in the middle of the eighties must cease, and the best thing for us all for the benefit of all concerned was to work in unison so that the vast area which has been added to the commercial sphere of the merchants of Europe and America might be developed so as to be of the greatest possible benefit to all, whether they be natives of Africa or commercial men of this or any other country. Permeated with these ideas, I considered myself most fortunate when I came into contact with those to whose, wisdom, foresight, and courage the initiative of the Central African portion is due. I, in common with them, saw the absolute necessity of working on a basis of international friendship, and thereby securing the greatest possible area for the development of British commerce and the profitable investment of British capital. That we have been successful in this, our ideal, is proved by our report. We have no difficulty with any foreign company or undertaking, and in those in which we are interested we have secured a proper and adequate representation for the British capital invested. Working accordingly, on these lines, we endeavour to avoid all friction and prevent, as far as is humanly speaking possible, the raising of any international or political difficulties. To Mr. Rhodes, who is busy carrying out the idea which in Lord Beaconsfield's brain led to the sending out of Sir Bartle Frere to South Africa, this policy of ours of international friendship and loyal observance of treaties must be welcome, for more than any other he must be dependent for complete success on the friendship and loyalty of the Boers, Germans and Portuguese, who are his neighbours, while it may lead to a wider federation of interests than even he dreams of. This same policy led to the formation of the "Companhia da Zambesia," as to which we have the reports and testimony of Mr. Foa and Mr. Hanner; I have also seen Mr. Angelvy who for over a year has been working at the coal mines. The coal has been used in the steamers of the Flotilla Company, and the managers of this company report it as being of a better quality than the Natal coal, of which at the commencement of their work they had considerable experience. The reports on the coal completely bear out those which are embodied in the report, and as now the time for examination and deliberation has passed, and that for development has arrived; we are making arrangements for working the most advantageously situated of these mines with the group of French capitalists, who, together with the Central African and Zoutpansberg Exploration Company (Limited), hold the bulk of the shares of the Zambesia Company. We anticipate being able not only to supply all local demands, but also to compete for the supply of Zanzibar, Diego, Suarez, the Seychelles, Mayotte, and possibly even Aden and Perim. Gold has been washed by Mr. Foa on the Revugue and its tributaries, and elsewhere, and we know that a large portion, and the most valuable, of the Mazoe gold fields lie within the Zambesia territories. In the map of the Zambesia Company you will see the points where gold is known to be, and by news from the Zambesi mouth we know that prospectors are intending to spread themselves over the country. By adopting regulations similar to those of the Mozambique Company, we shall enable these prospectors to obtain a good title for the mines they discover, and also ensure a revenue for the Companhia da Zambesia. Close to the coal mine we intend to work at first is an important deposit of copper, lying indeed between the coal mine and the Zambesi. You will have noticed in what is written about the "prazos" that the Companhia da Zambesia has since its formation, obtained a further cession of these "prazos" or Crown lands, from the Portuguese Government. One of the duties entrusted to Colonel Andrada, and after him to Senor Machado, the manager, is the organisation of the collection of the revenue of these "prazos" and other matters connected with them. This being properly done the Zambesia Company should have a considerable annual revenue from this source, as well as the control of a large supply of labour. The vegetable products of the basin of the Zambesia are well known, and as transport is provided it will possibly be exported there at a large profit. Mr. Foa has supplemented our information on these points, and with his assistance we are engaged in working out practical schemes for the profitable development of the india rubber, ivory, timber, fibre, wax, hides, indigo, and other products of commercial value which I have mentioned. In all these developments this company had a very large share. I now come to the Flotilla Company. From the first formation of the old Central African Company, indeed long before that, it has been evident that to develop commerce and make these countries of value, transport must be provided. Transport has always been the great difficulty in the opening out of Africa, and its real development can only take place when regular and fairly economical transport is provided. We have seen how the Belgians have utilised the Congo, the Niger Company the Niger, while defective transport has practically killed the British Imperial East Africa Company, and defective transport has again been the cause of hardship, illness and suffering in Mashona and Matabele lands, besides having caused the outlay of vast sums of money which the Chartered Company could easily have employed in a more profitable manner. To provide transport we founded the Flotilla Company, assisted by Commander Keane, R.N., C.M.G., who for two years had been serving on the river in command of H.M. gunboats, and had arrived at the same opinion that I had always held as to the value of the river and lakes as arteries of commerce, and that their proper utilisation must prove profitable not only to the traders and planters in the country, but also to those who provided the means of transport. If we had had sufficient means we should have organised it as a branch of the Central African and Zoutpansberg Exploration Company, Limited. Already the managers of the Flotilla Company write home to say that they are paying their way, and hope to be remitting money home next month. At the date of their report, the large stern-wheeler, *The Argonaut*, had been running a month and earning good returns. Of course the expense attending her construction ate up much of the earnings of the other vessels. Their plant now consists of suitable steamers, several boats and lighters, a bulk for depot at the Chinde Mouth, besides houses, stores, &c. As the managers have constantly to turn away the remunerative freight, which, owing to the special connections of the Flotilla Company, they can command in respect to the arrangements that have been made with the Katanga Company and the Companhia da Zambesia, a large increase of plant is necessary. Every penny that it has spent hitherto has been on sheer development work, and unfortunately the appeal made to the shareholders of this company to subscribe to shares in the Flotilla Company met with practically no response from you. I think in this you made a great mistake. This company has been engaged in the obtaining of enormous territories for the smallest price, and hopes, after testing and proving their value, either to dispose of them again at the largest possible profits, or hold them if that proves the better course. In securing properties we have been most successful, and trustworthy reports we have received of their value tell us what good bargains we have made. The best properties, however, have only a potential, and not an actual value so long as communication is difficult and transport practically non-existent. To whom, then, should we look for the necessary means to facilitate communication and provide transport but to those the value of whose property is enhanced by this being done? You can, however, still become shareholders in this undertaking, which is sound of itself, and would give you good returns for the money invested in it, and indirectly you will thereby largely increase the value of the countries of which you are part owners. The Mozambique Company, in which we have a small interest, and with which we are in complete accord, is making solid progress, and its income is increasing every month. This company is, as you will observe, co-terminous with the Companhia da Zambesia, the two together controlling access to the territories of the Chartered Company on the one hand from the sea coast, and on the other *via* the Zambesi. The remainder of our assets consist mostly of shares in the Matabeleland Company and other companies. Amongst other land sites we possess an estate at Chiromo, on the Shire River, opposite the Rusmouth, and what is more important concessions in British Central Africa; some question has arisen as to some of these concessions, but I am now in direct communication with the Foreign Office. I hope that before long we shall have all these questions satisfactorily settled, (Applause.) Mr. Foa's presence here is most valuable to me at this present juncture, as he is able to furnish precise and accurate local information, which otherwise would be unattainable, and it is just this precise and accurate knowledge that enables me to conduct these important negotiations with success. In conclusion I will say we are assured of success, but we require your moral and material support to ensure that that success shall be immediate and not delayed, and for our success we also wish for peace and security so as to prosecute in safety our commercial and industrial task of the development of Africa; we have no ill-will against competing companies, we know that it is only by working in amity that the success of all these great undertakings is to be secured, and we are ready to hold out the hand of friendship to each and all. To compare our condition with that of other companies would be invidious and would not perhaps conduce to the friendship we desire, but I can confidently state that no company of a similar nature has such valuable assets in proportion to capital as we have. As I have already said we are on terms of friendship with all nations, with French, Germans, Portuguese and Belgians, people of all these nations are interested in our enterprises. Whatever political contingency may arrive we can be assured of friendship and support, we are certain of the future we are in no way over capitalised and we are not in debt, every penny of our issued capital is far more than justified by the assets we possess, and those assets are daily increasing in value. Negotiations are daily and hourly going on tending to increase the intrinsic value of our

properties, and we are so closely allied with important groups of capitalists, both here and on the Continent, that we hope ere long to be able to realise such portion of our properties as we consider it conducive to your interest to dispose of, and to push on the development of those we consider it wiser to hold. You must put your trust in the board, who spare neither time nor labour on your behalf, and you have also to warmly thank your largest shareholders, who are constantly on the alert and who have loyally stood by the ship through all storm and foul weather. Gentlemen I conclude by asking you to adopt the report and balance sheet which has been submitted to you.

Mr. CLENCH, in seconding the motion for the adoption of the report and balance sheet, commended the wisdom the directors had displayed in the management of the company's affairs. No doubt many of the shareholders would have been glad to be in the possession of a dividend, but the next best thing was to know that the company had some valuable assets, and the shareholders could not feel otherwise than grateful for what they had heard. It was true they must excercise some patience and wait a little longer before obtaining definite results. It was, however, satisfactory to know that they had something to wait for, and that the assets, already valuable, were continually becoming more so.

Mr. SISTERSON expressed the hearty thanks of the shareholders to the directors for the efforts they had made upon their behalf, and spoke of the value of the Klerksdorp property, saying that the Klerksdorp district would prove a second Randt. If the directors followed the same course in the future, they might rely upon the most cordial support.

The CHAIRMAN, in answer to questions, stated that most of the shares held by the company in the various other companies were registered in their own name.

The confirmation of the election of Colonel Stuart to the vacancy on the board created by the death of Mr. Newton having been carried, and the auditors having been re-elected, the meeting terminated with hearty votes of thanks to the directors and the Messrs. Fox and Hanner.

THE SUNBURST GOLD MINING COMPANY, LIMITED.

Two probable reefs on the property.

The first ordinary general meeting of the Sunburst Gold Mining Company (Limited) was held on Monday, at Winchester House, Old Broad-street, the chair being occupied by Mr. SINCLAIR MACLEAY.

The SECRETARY (Mr. Charles C. Rawson) read the notice convening the meeting.

The CHAIRMAN said:—As this is only a formal statutory meeting, required by the Act, there are no accounts to be presented, and I have nothing particular to communicate to you. Nearly one-half of the shares in the reconstructed company have been allotted, and some 16,000 have been promised. Negotiations are being made with one or two large shareholders to take up the balance of the shares which have not been applied for, and I don't think you can do much better than leave the matter in the hands of the board. The company's grounds are at the present time being worked by a few tributors until such time as the funds of the company will enable us to proceed with the work of exploration. The directors consider the prospects of the company are favourable and they have the opinion of a reliable mining engineer that two good reefs underlie your property at a lower depth. Our neighbours in the adjoining mine are now boring for these two reefs with a diamond drill, and if they succeed in striking them, which we are led by the report of that company to understand will be the case, there is no reason why we should not look forward for similar good fortune. It is a well-known fact that success has attended the exploration of the deep ground all over the Charters Towers field, and no deep shaft has yet proved unpayable. The Chairman concluded by stating that the next question before the meeting was his own re-election, and that he would retire from the chair in favour of Mr. J. R. Clipperton.

Mr. J. R. CLIPPERTON, in moving the re-election of Mr. MacLeay, said that as soon as the directors had sufficient money in hand to commence sinking, the work would be carried on as quickly as possible.

Mr. J. H. CLARKE seconded the motion, which was carried unanimously.

The meeting then terminated.

SOUTH FRANCES UNITED.

A call of 10s.

A sixteen weeks meeting of the adventurers in South Frances was held on Thursday at the mine, when the chair was occupied by Mr. CORNELIUS BAWDEN, the company's purser.

The statement of accounts, submitted to the meeting contained the following items:—Labour costs, £8104; merchants' bills, £3224; rates £95; stannary assessment, £15; banker's interest and commission, £161; dues (Mr. St. Aubyn), £34; water rents, £113; total debits, £11,749. Credits—194 tons of tin sold realised £8410; carriage, £14; discount, £81; old iron, £25; rents, £5. The credits totalled £8538, leaving a loss on the sixteen weeks' working of £3211. The balance against the mine was £3955.

Captain HOOPER, the manager, said that had it not been for the severe frosts and the fire at the poppet heads at Pascoe's shaft they would have probably returned 8 or 10 tons more tin. He deplored very much these accidents, and the loss they had occasioned. Had they not happened the loss would have been something below £3000. They had had, however, to contend against great difficulties. The fire originated at the poppet heads, and no cause could be assigned for it. Since the printing of the report there had been an improvement in the 285; a parcel of stuff from there on Wednesday yielded 65 lbs. to the ton, and he thought the next parcel would be very much better. At the 256 they were 27 or 28 fathoms behind Daubuz's shaft. The skip road in that shaft was now completed from surface, and when they had fixed the pole at the bottom they would have a dry shaft. The flat lode was all in virgin ground, and so was West Frances engine lode, which had been productive down to the boundary, and which, there was reason to believe, continued productive in South Frances sett too. The flat lode from the Grenville points was also coming towards South Frances. He thought the development of Daubuz's part and the intersection of these two lodes were fine points for the future, and if they were turned to account he prophesied a good career for South Frances.

Mr. J. C. DAUBUZ regretted to inform the meeting that the shares relinquished numbered 546. He had received a letter from a gentleman, whose name he was not at liberty to mention, saying that at the present time he held a considerable number of shares, and rather than see South Frances abandoned he was prepared to take over 380 more if they would carry on the property. (Applause.) He acknowledged that letter, and that morning the gentleman had written:—"If I take over 380 shares it must be on condition that all calls due on them are paid, including the one you are to make to-morrow. Of course, in asking you to do this, I run a risk, but in these times I am only doing my duty as a Cornishman in supporting our native industry." He had also received a letter from Mr. H. R. Goddard, in which he said:—"In view of the heavy loss incurred in the 16 weeks' working of the mine, the present low price of tin, together with the work contemplated to effect an improved condition of things, I have pleasure in informing you that Mr. Basset will be pleased to forego his claim to the water rent due at Michaelmas last, and for such time in future as the condition of things, in his view may make it a necessity." (Applause). The men employed in the mine had also contributed their quota in the present necessity by accepting a reduction of wages. It would be a serious calamity to all the mines on that side of the hill if anything were to happen to South Frances, and he hoped that such a contingency might long be avoided.

Mr. E. G. HEARD remarked that during the last 12 months they had lost £10,000 in the mine; to day their loss was £3200 and there was due to the bankers £4000. His idea was that they should make a call of 14s. per share, which would meet the adverse balance, accordingly he moved a resolution to that effect.

Captain W. RICH, speaking upon a point raised by Mr. E. G HEARD, said he thought that instead of sinking Daubuz's they should approach West Frances, utilise the old shaft there on South Frances boundary, and get down on to the lode which they knew to exist there. In return they could let West Frances work a portion of West Basset sett.

Mr. DAUBUZ promised that the suggestion of Captain Rich should be considered by the committee.

Mr. A. LANYON remarked that they had deliberately entered on a scheme recommended them by Captain Gilbert and Captain Bishop, and to abandon that now and negotiate for something else would be to find themselves in a worse dilemma than ever. The committee had recommended a call of 10s. per share, and he moved a resolution that their recommendation should be adopted.

Mr. HEARD accordingly withdrew his resolution, and the call recommended by the committee was agreed upon.

The meeting concluded with a vote of thanks to Mr. Basset for remitting the water-rents.

ST. AUGUSTINE MINE, LIMITED.

The Reconstruction confirmed.

An extraordinary general meeting of the shareholders in the St. Augustine Mine, Limited, was held on Tuesday, at the Cannon Street Hotel, when resolutions winding up the company, passed as special resolutions at a previous meeting, were submitted for confirmation. The Chair was occupied by Colonel MALLESON.

The SECRETARY (Mr. G. H. Newman) read the notice convening the meeting.

The CHAIRMAN, without comment, formerly moved the confirmation of the resolutions.

Mr. BERESFORD seconded the motion.

Mr. DAVY reminded the Chairman of the adverse criticism which at the last meeting had been directed towards the proposal to reconstruct, and asked him, as one who knew more than anyone else about the property, whether he believed in it—whether, in short, the few thousands likely to be raised by the reconstruction scheme would probably lead to profitable results.

The CHAIRMAN said that notwithstanding the large sum of money he had lost in the mine he still had implicit faith in its future, and should put his "bottom dollar" into it. This he said, notwithstanding the certainty that he should not be on the new board of directors. In answer to questions, the Chairman said he supposed, in the event of the resolutions of reconstruction being confirmed, the directors would be elected from the committee of management who would carry on the arrangements of the company until the statutory meeting. The present committee had carried out their duties in an admirable manner, and personally he thought them thoroughly worthy of the confidence of the shareholders.

The SOLICITOR then read the Articles of Association of the new company, which, he said, were substantially the same as those of the old one, with certain additions and improvements.

A SHAREHOLDER enquired whether the opinion of counsel as to the royalty certificates had been communicated to all the royalty certificate holders.

The CHAIRMAN replied that such was impossible, for the certificates were payable to bearer, and no one in the world, not even Mr. Gladstone, knew who were the holders of them.

Colonel WALKER entered a strong protest against the reorganisation of the company, deeming such a step unnecessary.

The motion for confirming the resolutions of reconstruction was then put and carried, with three dissentients, and the proceedings terminated with a vote of thanks to the Chairman.

MISCELLANEOUS MEETING.

GOVERNMENTS STOCK INVESTMENT COMPANY.

Greatly improved position of the company's affairs.

THE 22nd ordinary general meeting of the shareholders in the Governments Stock and Other Securities Investment Company was held on Monday, at Cannon-street Hotel, under the Chairmanship of Mr. J. W. PHILIPPS, M.P.

The SECRETARY (Mr. J. E. Gunyon) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen, I will begin, as on former occasions, by just going through the figures of the balance sheet and comparing them with former years. First of all, our share capital stands at £750,000, as it did before, our debenture stock stands at £438,970, as last year, and our deposits come to £25,900, as against £28,900 last year. The slight reduction which is shown here arises from the fact that from time to time deaths lead to money being withdrawn, and we do not find that it is worth our while nowadays to spend money in advertising for deposits, as it is not a class of business sufficiently remunerative to spend money in getting. Then, the reserve fund amounts to £49,107, while it stood last year at £56,284, the causes of the reduction having been already explained in the report. The sundry creditors, being debenture interest payable on January 1, &c., amount to £10,140, as against £9668 last year. Turning to the other side of the balance sheet, you will see that the item of investments is £1,201,935, as against £1,234,106 in the previous year. The advances amount to £53,983, as against £30,615. I may say here that we believe all our advances are thoroughly good. The dividends due and accrued are £9232, as against £12,568. The office furniture stands at £336, as before. The cash at the bank at the end of December was £22,188 against £15,655 in the year before. Turning to the profit and loss account, the interest on debenture stock and deposit comes to £18,531, as against £18,796 in the year before. The directors fees are £700, and the trustees' fees are £150, as last year. Then the next item is for salaries, rent, printing, postages, advertisements, &c., £2046, as against £1809; and, as regards that, you will remember that last year I told you that I thought we had reduced this item to the very lowest limit, and that we should not be able to keep it quite so low in the future. But, as against this, we have economised in the past year by £1161, which was the expense incurred the year before by reason of the cost of Chancery proceedings and by means of which we got our increased powers of investment, and that, as I said at the time, will not occur again. Turning to the other side of the profit and loss account, you will see that by dividends, &c., we get £41,359, as against £40,136, the year before. Turning next to the appropriation of profits, we bring down a balance of £22,049; but when we deduct from that the interim dividend on the preference shares, at the rate of 4½ per cent., and the final dividend on on the preference shares, which I have no doubt you will declare to-day, and which amounts to £16,381, you have left £5668, and we propose that you should declare a dividend of 1 per cent. on the deferred stock, which comes to £3640, thus leaving you the sum of £2028 to carry forward to another year. I will next just go briefly through the various subjects that we refer to in the report. You will see that we speak of the agreement come to for the service of the Argentine national loans. That agreement is not a wholly satisfactory one, for it does not come to a great deal more than what we were getting previously from the Argentine national loans by selling the funding stock they formally paid us instead of our dividends. We can only say that we hope this arrangement will be faithfully observed, and that it is not wholly unsatisfactory to the company; but as regards the Argentine provincial and municipal loan we are just where we were before. They negotiate, they talk, and they are still talking, of arranging with their creditors; and, so far, they have done nothing but talk, and the company does not profit by any payments. We hope, however, that there will be some reform in this respect in the future. During the year the directors realised a profit of £2695 by the sale of securities; but, in effecting the changes in the investments and writing down the cost of several securities, this sum, together with £7177 of the capital reserve fund, has been used, and we have thus reduced the capital reserve fund to £49,107. Then you will notice that Sir Francis Truscott, one of the trustees, has retired during the year, and the directors have elected in his stead Mr. Walter S. B. McLaren, M.P. Mr. Frederick Hill, one of the directors, also retires, but, being eligible, he offers himself for re-election. And now to say a few words generally on the position of the company. I have spoken to you so fully on previous occasions that I do not think it is necessary to go over the old ground again. You know that the losses which we have sustained in the past have come primarily from the enormous amount that was originally invested in the Argentine Republic. That holding remains as it did before. Our principal remaining risk is the large investment we have in Brazil. It is not so large as is the case in the Argentine Republic; but, still, it is a large investment—much too large, I think, to be satisfactory in any one security, and especially when we see the condition of affairs caused by the civil war in Brazil at the present moment. We have done our best to reduce that investment during the past year, and we have reduced it very considerably indeed. We have taken a good many thousands of pounds out of Brazil during the past year, and our only regret is that we have not been able to reduce it still further. That has been our policy. It was our policy when we first assumed office—the policy of reducing the big investments, and spreading our investments so as to lessen the risks we hold in any one country and in any one class of securities. As regards the future, we don't pretend to be infallible—we don't say we are not going to make mistakes now and again; but speaking generally, the position of the company in the future, as far as I can judge, is satisfactory. It is my opinion that if you sustain any loss in one investment you are likely, in the future, to balance it by a gain on some other investment which has not been paying a dividend, but which may do so in the future. That is putting broadly my view of the case—that any future loss is likely to be balanced by a gain. And I may say here that we have had a remarkable instance of that in the past, as you will see in the report, with reference to the city of Malaga. The city of Malaga had given us nothing in the way of revenue for many years past, and to-day we have replaced to our capital account the sum of £11,700 from the city of Malaga, and that £11,700 will be earning you dividends during the whole of the year 1894. There is not much more that I can say. I have never felt it my duty to make very sanguine speeches to shareholders. I have told you my view of the company's position, which is, in a word, that it is to-day more hopeful than it has been in the past. That is my view of the position, and I could not add to it by any more words of mine. I now beg to move the adoption of the report and accounts.

Mr. FREDERICK HILL seconded the motion.

Speaking in answer to questions, the CHAIRMAN said that the dividends which had accrued to January 1 were perfectly good. The income derived from exceptional sources amounted, roughly, to £1000. Rather more stock, if anything, was held by the board of directors than last year, and their holdings were fairly equally divided between preferred and deferred stock. All shares held by them were fully paid—indeed there was no capital of the company that was not fully paid up. Serious losses had indeed been made in the past, but not during the *régime* of the new board, which had done much to retrieve the position of the company. The old directors had been unlucky enough to put a large amount of money in the Argentine Republic and in other unhappy directions. That was why no dividends had been paid during the previous two years and a half. He was glad to say, however, that they had again arrived at the position when they were able to pay a dividend, a fact which was largely due to the exertions of the directors.

Mr. WHITE expressed great satisfaction at the latter part of the Chairman's answer, and said he hoped that, under the direction of the new board, the company would go on to an even more successful future.

The resolution for the adoption of the accounts was then put, and unanimously adopted.

On the motion of the CHAIRMAN, a dividend at the rate of 4½ per cent per annum was declared on the preferred and of 1 per cent on the deferred stock of the company.

The CHAIRMAN next proposed the re-election of Mr. Frederick Hill, whose services on the board were of great value.

Mr. J. S. AUSTIN seconded the motion, which was put, and carried without dissent.

Mr. F. HILL, in returning thanks, said that the unanimous mark of confidence which they had given him would incite him to even further efforts on behalf of the company.

Mr. ALLENSTEIN proposed a vote of thanks to the Chairman and directors for their services during the past year, and spoke very highly of the conduct of the board. From the Chairman downwards, they had all been unflagging in their zeal to bring the company into a dividend-paying condition. He wished also to add to his motion a proposition that, in recognition of those services, the fees of the Chairman should be increased by £200 per annum, and the fees of the other directors by £100 per annum. They would all admit, he said, that in the past the Chairman and his colleagues had been working for an extremely low and unremunerative figure, and the time was now come when the shareholders should recognise their services in a substantial manner.

Mr. BARNETT seconded the motion.

Mr. WHITE enquired the nature of the special services rendered to the company by the directors.

The CHAIRMAN explained that on various occasions he had travelled on the business of the company to South America and the West Indies without putting the company to a penny of expense in the way of travelling expenses, while his colleague, Mr. Hill, had visited Greece, Turkey, and Bulgaria on the company's business in the same way without any recompense.

The motion, with the addition proposed by Mr. ALLENSTEIN, was then put and heartily carried.

The CHAIRMAN, upon the suggestion of the Rev. Dr. CROSSLEY, promised that the special offices of Mr. W. S. Ellwood, in the service of the company, should be taken into consideration, and took the opportunity at the same time to express, on behalf of the directors, their indebtedness to Mr. Ellwood for the very successful result which had followed on his endeavours for the company.

The meeting then terminated with the usual vote of thanks to the Chairman for presiding.

THE GOLD FIELDS OF WESTERN AUSTRALIA.*

THEIR DISCOVERY AND PROGRESS.

LECTURES AT THE COLONIAL INSTITUTE.

TWO lectures on the Gold Fields of Western Australia have within the past fortnight been delivered before the Fellows of the Royal Colonial Institute by Mr. ALBERT F. CALVERT, F.R.G.S., &c. Mr. SEEBRIGHT GREEN occupying the Chair.

An Historical Account.

At the outset the author remarked that to sketch in the crudest outline the discovery and progress of Western Australia, as well as to give an account of its gold fields, was the object of his paper. Whether gold was actually found during the sixteenth century in Australia, it was impossible to say for certain. Indeed, where and by whom the continent itself was first discovered is extremely doubtful. We can affirm with safety, however, that the navigator—whether Dutch, Spanish, Portuguese, or French—who first landed on Australian shores, found himself on the coast of Western Australia, and all authenticated discoveries—such as that of Dirck Hartog—were made in this quarter. Its geographical position, which placed it nearest the Old World, and in the track of vessels, assured the colony of this pre-eminence. If the gold was found in *Terra Australis* or *Java Major* by any of the old-time voyagers, the nuggets must have been picked up in Western Australia. For various reasons, however—the foremost being international jealousy—the truth concerning these early discoveries, whether territory or treasure, was obscured by clouds of doubt and mystery. The history of the colony began with Captain Stirling's visit to Swan River in 1828. The history of the country, if it were possible to write it, would reach back into remote ages, during which the great Island Continent was peopled with a wild race of men, who do not seem to have had any written language.

The revelation of her extraordinary mineral resources has led to publicity being given to the colony. Had it not been for the discovery of gold the progress of Western Australia would have been slow indeed, but now that she has been given the necessary impetus we may expect her agricultural, pastoral, and manufacturing industries to place her on a solid foundation. He had every confidence that her minerals will counteract terrible disadvantages under which she laboured in her early days, and from which she has never recovered. Such practical knowledge as he had gained gave him the fullest confidence that a bright and prosperous future awaits the colony. He has made three expeditions to Western Australia and has explored nearly every district, and from time to time has made a point of sailing to every port from Cambridge Gulf to King George's Sound. From each of these ports he made journeys of varied duration, and with various objects in view. The conclusion at which he had arrived was that we are woefully ignorant of this distant land. Nature has put such a veto against the advance of Western Australia, that nothing but the utmost resources of science will enable her mineral wealth to be developed.

Obstacles to Progress.

Western Australia has at present three great obstacles to her progress. The first was physical—her lack of water, which can only be combatted by science. The second, her scantiness of population—was being slowly removed. The third can readily be surmounted, if confidence in her great mineral resources was once inspired, and that was her lack of capital. When capital flows into Western Australia, population will follow. Her huge area of 1,060,000 square miles, which now constitutes a drawback, will furnish a noble field for engineering triumphs. Money will cure the ills from which she suffers, and for this money she can offer ample security. Thirst has been the terror of the Australian explorer, and the deterrent of the gold miner.

As would be seen from the following particulars of the fields, every district is more or less hampered from the same cause:—Mr. Renou, the superintendent of water supply, in his recent report on the water supply at Southern Cross and Coolgardie, draws attention to the disasters which drought may yet bring in its train. He points out that the district is the most arid in Australia. Natural watercourses, or permanent surface waters, there are none, not a single stream finding its way to the sea for many hundreds of miles on either side. The rainfall is not only slight but uncertain. If next summer turns out a dry one, a condition of things may result which may easily become appalling. The provision for water at Coolgardie is altogether insufficient, even for a usual summer, so Mr. Renou tells us. Should the summer be a long one, the crowd of prospectors and miners may be actually caught like rats in a trap. Retreat, even for those at Coolgardie, will be difficult; but it will be impossible for them to stay. At this locality a couple of tanks have been made, of which the superintendent of water supply says that one should hold 525,000 gallons, while another is a failure. In any case, he remarks, if even should the tanks be filled, their supply cannot last through the ensuing summer. The attempt to sink wells has proved abortive, but the failure to make tanks is the more blameworthy because the ground seems to be excellently adapted for this purpose.

Science comes to her aid.

Science, however, has come to the aid of the miner and bushman in other quarters, and may be said to have vanquished this horror of the desert. Queensland and New South Wales have demonstrated that plenty of water may be obtained by artesian boring. Day by day fresh reports come in of the striking of water in one or other of the many bores now being drilled all over the dry-belt of Western Queensland and New South Wales. An enormous area of that arid territory has been found to be water-bearing, and drought is fast losing its terrors for the farmer and squatter. And yet there is no indication of a diminution in the vast supply of underground water, owing to the number of vents which the hand of man has opened for its escape. Just as irrigation has proved the salvation of many a rancher on the prairies of Colorado, so has artesian water rescued from ruin many a pastoral property in Queensland and New South Wales. According to the latest computations, the total area of Western Australia is 678,400,000 acres, or 1,060,000 square miles. This vast tract of country, nine times the size of England, Scotland and Ireland combined, has just reached a population of 60,000 souls, entitling the colony to an elected Upper House, in terms of "The Western Australian Constitution Act, 1890."

Official Statements.

After giving an account of the discovery of gold in the colony, the lecturer quoted the remarks made by His Excellency, Sir William C. F. Robinson, G.C.M.G., Governor of Western Australia, on the opening of Parliament, the 5th day of July, 1893, when he said—"The discoveries of gold in so many parts of the colony seem to strengthen the general opinion that Western Australia is to become one of the great gold producing parts of the world." In the Legislative Assembly, 26th August of that year, Sir John Forrest said—"I am very glad to say that our anticipations as to the presence of the precious metal in the colony are likely, so far as I can judge, not only to be realised, but to be far exceeded. The export of gold from the colony during the twelve months ending 30th June last amounted to 72,844 ounces, valued at £276,807 . . . . . an increase during the past year of £105,408. . . . . There is no doubt that gold does exist here in great quantities, and over an extensive area. . . . . We intend to continue to do all we can to assist in developing our mineral resources, especially our gold fields to the eastward, because we feel that the great future which we are looking forward to for this colony is considerably wrapped up in the development of these fields."

Since the time when Sir Roderick Murchison proclaimed his disbelief in the existence of gold in the colony, the great auriferous wealth of the western parallel has been abundantly proved. A belt of gold-bearing country extends from Phillip's river, in the south, up through the Yilgarn, Murchison, Gascoyne, and Ashburton Gold Fields. Then there seems to be a parallel further to the east, extending from Dundas Hills in the south to Ularring and Kimberley range, then passing the heads of the Murchison and Ashburton rivers, and possibly reaching to Marble Bar and Nullagine, where the belt may possibly be intersected by another, which running east and west cuts it at right angles. This latter assumption is not put forward as an ascertained fact, but merely as a possible suggestion as to the general run of the gold reefs. It is impossible to exaggerate the magnificent outlook on these vast tracts of auriferous territory. With the progress of exploration and discovery, new resources of wealth are appearing, and immense openings are revealing themselves for the employment of capital and labour.

The Returns from Alluvial Deposits.

Many of the alluvial deposits have already yielded large returns without the use of machinery. These cannot, however be reasonably expected to last. The future prosperity and permanence of the West Australian Gold Fields lies in the working of her great quartz reefs. To efficiently do this demands enterprises on a large scale, backed by capital and scientific skill. Then will the element of chance be reduced to a minimum, and gold mining be conducted on a basis of systematic calculation, like any other technical branch of industry. Distance, drought, and scarcity of timber, from which some districts suffer, are difficulties of Nature, which, however, can be largely overcome by science; and the vast mineral wealth to be secured will amply justify the employment of best means known to man.

In 1882 the late Mr. E. T. Hardman examined the Kimberley district, and it was his report on the same territory three years later which led to the establishment of the gold mining industry in Western Australia. The "Cinderella of the South"—as the colony has been called—was the last of the colonies to come to the front as a gold producing territory. Each of her colonial sisters had already passed through the ordeal of gold fever.

The Dundas Hills.

In dealing with the several gold fields of Western Australia in detail, he proposed, in the first place, to describe the last proclaimed field of Dundas Hills, situated about 120 miles north from Esperance Bay. They are extremely rugged in appearance, and consist of bare rocks, timbered here and there in patches. On the side of the dry salt lake they have a cliff-like aspect, and many rocks stand out from the waterless lake bed, through which run several well defined reefs. These are wide, and seem to run regularly, the tract leading into a gully which extends half a mile into the hills. Colours of gold have been got in these reefs, but little prospecting has been done as yet. The auriferous country is probably a narrow strip running north and south, and showing on both east and west sides of the hills, which are mainly of ironstone, with occasional glimpses of quartz. Several gullies intersect the hills, but do not exhibit alluvial, nor do the reefs seem rich enough for dollying. In short, this ground, although very promising, is not the place for the poor man or amateur, at all events until the advent of machinery.

The Yilgarn Gold Field.

"Yilgarn" is the native name for white quartz, and the first discovery of gold in this district was made by Mr. H. E. Anstey, at the end of 1887, at a place called Emun, about 12 miles north of Golden Valley. The next discovery was made at Golden Cross itself, a few months later. Then about the middle of 1888 gold was found some 40 miles south, near the Central Mine in the Southern Cross district, the latter place so called from its first discoverer having been led thither at night-time by the aid of the stars. In December, 1888, Mr. Parker, guided by a native, made a further discovery some 40 miles to the south-east, hence the name of Parker's Range.

Coolgardie and its discovery.

Coolgardie was, he believed, within the proclaimed boundary of Yilgarn; but as it is 120 miles to the south-east of Southern Cross, it may be treated as a separate gold field. In October, 1892, Mr. Bayley, a miner who was prospecting in this neighbourhood, made one of the richest finds in the history of gold mining. The news of the discovery speedily spread to Perth, and in November of last year, Mr. Sylvester Brown, who happened to be in the colony, travelled to Coolgardie, and bought Bayley's Reward Claim from its original holder for £6000, and a one-sixth share in the mine.

Bayley's Reward Claim shows a reef, which consists of a small blow running in a north-westerly direction and underlying to the north-eastward, striking across the line of country, which here runs nearly north and south. This reef is about nine feet broad in its widest part, but pinches towards either end of the claim. At the north end there is another blow of quartz, which strikes north and south, following the line of the strike of the country. This blow then dips under the alluvial flat, but a reef, on exactly the same line, is met with in a shaft in the gully, after which it appears to be lost. In one year Bayley's Reward Claim has yielded half a ton of gold, with no battery, and he had a photograph showing 4205 ounces of this gold valued at about £16,820. In many parts of this colony specimens have been obtained on the back of the reefs giving half gold and half quartz; but at Coolgardie the record has just been beaten, as a sample of gold quartz, weighing 10 pounds, gave 9 pounds of gold!

The Murchison Gold Fields.

The Murchison Gold Fields are situated about 320 miles to the eastward of Geraldton, or about eight days' journey. The road for the first 60 miles is rather bad, the first 30 miles being chiefly sandy hills, where water is scarce, and the second 30 miles crosses a sandy desert quite destitute of water. The remaining distance, however, leads through the bush, and presents no great difficulty, water being obtainable at easy stages. The territory begins to show auriferous signs within 80 miles of the diggings, and several belts are passed over which are well worth prospecting. The fields, as we approach, are full of such indications as gladden the eyes of a practical miner. Quartz and ironstone in fragments strew the entire surface, and outcrops of the same are visible in all directions. The proclaimed area of the gold fields is 32,000 square miles, the principal auriferous belt being situated at the eastern side of the district. It runs in a north and south direction, from West Mount Magnet to Austin's Lake, and then in a north-easterly direction to Lake Annean and Yagahong. Other rich patches exist farther east, and a few patches have also been discovered nearer the coast.

In most of the mines good water has been struck considerably under 100 feet down, and in fact it does not appear that scarcity is likely to hinder the development of these fields. The lack of timber is more to be dreaded as an opposing factor, particularly at the south end of the field, where there is nothing but mulgar.

Other Gold Fields.

The River Ashburton, which is about 500 miles in length, has its source in the Gascoyne Division of Western Australia, and flowing in a north-easterly direction, discharges its waters into the Exmouth Gulf, in the North-west Division. Early in 1890 alluvial gold was discovered in this district, on a creek running down a gorge about 200 feet deep, between steep cliffs of clay slate, capped by almost horizontally bedded limestones. The point at which the discovery was made is about 150 miles from the coast, and the Ashburton gold field was duly proclaimed in December, 1890.

In passing on to Pilbarra, it must be remembered that these fields suffer from the lack of opportunities enjoyed by the more fortunate southern fields. Coolgardie has been assisted by sensational discoveries; the Murchison has had the advantage of a certain reputation, and a more accessible situation; while Yilgarn has been supported by the favour of the Government. Moreover, all these fields are in the southern district, and are the first to catch the eye and ear of the speculator. It was an extraordinary thing that with the exception of his own efforts to bring Pilbarra to the front, he was not aware of any other person outside the colony who had attempted to describe or had even mentioned this important field. Even the Government Geologist, after devoting 16 pages of printed foolscap to the Murchison fields in his report, dismisses the district in one line:—"Pilbarra and Ashburton," he says, "have neither proved yet to be large reefing districts, so need not be mentioned." Pilbarra has truly suffered from every ill that a distant, untried and unknown gold field could be heir to, but it has always possessed a few miners having pluck and knowledge to test its capabilities. It was to the courage, faith and perseverance of these men that Pilbarra owes its recognised existence to-day, and the same pillar of strength which unearthed and supported it in the past seems certain to carry it onward to success and prosperity in the future. The gold field has a proclaimed area of 32,000 square miles and is situated in the north west district of the colony.

The Marble Bar field lies in a nest of low sandstone and slate hills, to the east of the Coongan River, and is distant from Roebourne about 275 miles. Without that modicum of assistance accorded by the Government to other and far less deserving fields, the Marble Bar Reefs have abundantly proved their quality. Both this field and its neighbour, Bamboo Creek, were opened up by ideal pioneers among the gold finders, whose innate perseverance and indomitable courage led them to penetrate far into the wilderness, and encounter inevitable distresses in these distant wilds. To these men, whose chief capital was their strong arms and stout hearts, may be attributed the early success and development of these fields.

He now came to the last of the great proclaimed areas of Western Australia under the Goldfields Act, 1886, viz: the Kimberley gold fields. Although he placed it last in sequence, owing to its geographical position, he might well have adopted a chronological method and placed it first. The Kimberley gold field is situated in the north-eastern corner of Western Australia, and its principal workings are near the eastern boundary of the colony, about 200 miles from Wyndham on Cambridge Gulf, and 300 miles from Derby on King's Sound. So far back as 1882 the late Mr. Edward J. Hardman, F.R.G.S.I., Government Geologist, discovered the existence of gold in the Kimberley district. The subject may be said to have slept for three years, when it was revived, and gold prospecting began in earnest.

A Comparison.

A comparison between the progress of the Western Australian gold fields and the early results from the South African gold fields, reveals that whilst 17 years elapsed before the South African fields produced £200,000 of gold, the fields of Western Australia exceeded that sum in the seventh year. It also shows that the output for the first seven years of the West Australian Fields has been more than double the African output for the first seven years. Moreover, Western Australia has exceeded by nearly £70,000 the output for the first 14 years from South Africa. These results have been attained notwithstanding the fact that hardly any of the mines in Western Australia have (owing to lack of capital) as yet been officially worked, and that a very small portion of the gold-bearing area has as yet been prospected.

DISCUSSION.

In the discussion which followed, Mr. MATTHEW MACFIE said he had spent most of his time in Australia in the Eastern Colonies, but he was in Western Australia at the end of 1890 and beginning of 1891. He thought that from the success of the Government boring machines at Yilgarn and other places there was every encouragement to believe that the water difficulty will be overcome. Instead of spending money upon the railway between Banbury and Perth, the Government should have spent their money in boring in mining districts that would have done some service to the country. He said that before the existence of gold was ever imagined in the colony, Sir Roderick Murchison was credited with the statement that if gold was ever found in Australia, it would be found in very large quantities at the back of Shark's Bay. He (Mr. Macfie) agreed with every word Mr. Calvert had said as to the marvellous wealth of Western Australia. He uttered a serious warning, prompted by his experience of what had been done in other colonies, against the over capitalisation of Western Australian Mines. If people wanted to get genuine properties they must send experts to guide them in making a selection. He mentioned, in conclusion, that Sir Frederick Weld once told him that although it was said Western Australia was nothing but sand, he (Sir Frederick) always contended that it was sand which would grow anything if you gave it water.

The discussion was continued by Messrs. Stanley, Edwards, C. Bethell, G. E. Colebrook, Dr. Brown, and others.

The meeting closed with the usual compliments to the Author and Chairman.

. Want of space has compelled us to cut down our report of these lectures, but we hope in an early issue to insert that portion which treated upon the discovery of gold in Australia, and on the part played in this by Mr. John Calvert, likewise to review all Sir Roderick Murchison did for and against this subject.]

MINERS' CONCILIATION BOARD.—The speaker has nominated Lord Shand to be Chairman of the Miners' Board of Conciliation, established in accordance with the Rosebery agreement, and his lordship has accepted the office. Lord Shand is 65 years of age, having been born in 1828. He is an Aberdeen man, and was called to the Scottish Bar in 1853. He soon marked himself out among his competitors and in nine years he secured the sheriffship of Kincardineshire, whence he was promoted, later on to Haddington and Berwick. In 1872 he became a Judge of the Court of Session, and the University of Edinburgh conferred on him the Doctorate of Laws. At the same time he served on various commissions with much public advantage. In 1890 Lord Shand retired from the Bench, and was appointed a member of the Judicial Committee of the Privy Council, in which capacity he served with distinction, received a Peerage in 1892.

Hon W.L. Marmion M.L.A.
Comm of Crown Lands.

MAP OF WESTERN AUSTRALIA

Scale of Miles.

0 10 20 30 40 50 60 120 180 240 300

Compiled at the Department of Lands & Survey
PERTH. W.A.

Cable from Banyuwangie

From Singapore

Scott's Reef

Seringapatam Reef

Browse I

BUCCANEER ARCHIPELAGO

Lacepede I

Beagle Bank

Augustus I

Collance Reef

Adele I

Cockatoo I

Montgomery I's

Balhurst I

Champagny I

Vulcan I

Coronation I

Tamworth I

YORK SOUND

KING SOUND

DERBY

BROOME

Roebuck Bay

Entrance R

Thangoo

Elliot Lake

Forrest River

KIMBERLEY DIVISN

KIMBERLEY GOLD FIELD

Denison Plains

Great Antrim Plateau

Mt Casuarina

Mt Bradshaw

Mt Horace

Mt Bertil

Mt Cockburn

WYNDHAM

Adolphus I

Mt Connexion

Mt Frager

Steere Hr

Mt Nellie

Mt Humbert

Mt Marmion

Mt Anderson

Mt Wynne

Mt Abbott

Mt Arthur

Mt James

Mt Tuckfield

Mt Forrest

Mt Leake

Mt Hann

Mt Elizabeth

Mt Ord

Mt Cockman

Mt Barrett

Mt Buenaman

Mt Clode

Mt Jarrad

Mt John

Glass H

Mt Lucien

Mt Ball

Mt Krauss

Mt Phillips

Mt Fairbairn

Mt Bertram

Mt Frank

Mt Clintock Ra

Mt Tim Perley

Mt Doherty

Mt Muller

Mt Musgrave Ra

Mt Wilson

Mt Bussell

Mt Macpherson

Mt Destruction

Carnarvon Ra

Dry Lakes

Native W.

Native Wells

Joanna Spring

Cdl Warburton

1873

L Isabella

A.C. Gregorys Tr
1856

Lady Edith's Lagoon

Salt Sea

Emily S

Ada Sp

Florence Sp

L Lucas

L White

Mary S

Ord R

Gregory Lake

Stuart Ck

Sturt Ck

Ellendale

Bedout I

Solitary I

Forrest River

DAMPIER'S ARCHIPELAGO

Legendre I

Cassini I

Rosemary Is

Lindesay I's

Hampton Harbour

Ritchies Reef

Monte Bello Is

Barrow I

Double I

Skuillo

Rowley Shoals

Mary Anne Is

Direction I

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Mt Stewart

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Mt Vermont

Mt Constantine

Mt Dove

Mt Berkhamsted

Mt Willard

Mt Welcome

Mt Herbert

Mt Cassell

Mt Wilson

Mt Vivienne

Mt Samuel

Mt Whitcher

Mt Lyell

Mt Bruce

Mt Lionel

Mt Farquhar

Mt Brockman

Mt Augustus

Mt Phillips

Mt Vernon

Mt Bresnahan

Mt Blair

Mt Palgrave

Mt Pilbury

Mt Tucker

Mt Forrest

Mt Florkin

Mt Edith

Mt Stuart

Mt Ashburton

Mt Robinson

Mt Lockyer

Mt Marsh

Mt Brooking

Mt Alexander

Mt Sandford

Mt Mary

Mt Rae

Mt Sherlock

Mt Bruce

Mt Vicars

Mt Lionel

Mt Florkin

Mt Edgar

GASCOYNE DIVISION
MURCHISON
GOLD FIELD
EASTERN DIVISION
YILCARN
GOLDFIELD
SOUTH WEST DIVISION
EUCLA DIVISION
SOUTH INDIAN OCEAN
SOUTHERN OCEAN
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ARCHIPELAGO OF THE RECHERCHE
CARNARVON
GLADSTONE
PERTH
FREMANTLE
GERALDTON
KALGOORLIE
BOULDER
NORTHAM
YORK
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BUSSELTON
BRIDGETOWN
ALBANY
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Coolgardie
Boulder
Golden Valley
Knutsford
Southern Cross
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E. Giles 1876
J. Forrest 1874
D. Lindsay 1891-2
E. Giles 1875
J. Forrest's Fur 1869
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J. Forrest 1869
J. Forrest 1870
Alexander 54
Giles Far 1875
C. Gosse 1873
De Lisser 1863
Boundary Dam
Edge of Great Southern Plain
Rock Holes
Limejuice Camp
Station
Railways shown thus
Railways being constructed
Boundaries of Land Divisions
Gold Fields
Stock Routes
Telegraph Lines
Agricultural Areas
Steamer Routes
Route to Gold Fields
Mail Routes
W A Land Co's Selections
REFERENCE
To Adelaide
From Colombo

WESTERN AUSTRALIA

Hon W.E. Mormion M.L.A
Comm of Crown Lands.

MAP
OF
WESTERN AUSTRALIA

Scale of Miles.

0 10 20 30 40 50 60 120 180 240 300

Compiled at the Department of Lands & Survey
PERTH. W.A.

From Singapore
Cable from Banjoewangie

Seringapatam Reef
Scott's Reef
Browse I
Cartier I
Ashmore Reef
Hibernia Reef
Seringapatam Reef
Scott Reef
Browse I
Bedout I
Solaryl
Lacepede I
Adele I
Cartier I
Beagle Bank
Augustus I
Champagny I
Vulcan I
Coronation I
Lamarck I
Buccaneer Archipelago
Cockell I
Montgomery I
Balhurst I
Collier Bay
Dampier's Archipelago
Legendre I
Gridley I
Rosemary I
Enderby I
Delambre I
Ferrier I
Depuch I
Cossack
Roebourne
Hampton Harbour
Monte Bello I
Barrow I
Double I
Shell I
Rosily
Direction I
Mary Anne I
Beagle I
Onslow
Exmouth Gulf
Mayor I
Locker
Learmonth
Telegraph Sta
Cape Range
Ningaloo
Point Cloates
Tryal Rocks
Gascoyne R
Carnarvon
Babbage I
Northampton
Port Gregory
Geographe Shoals
Ritchies Reef
Pilbarra
Nickol Bay
Roebourne
Cossack
Wickham
Point Samson
Hedland
Port Walcott
Depuch I
Cape Preston
Dolphin I
Sholl I
Barrow I
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L. Augusta
L. Wells
L. Christopher
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The Weld Springs
Giles Far 1813
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Recruit Flats
Depot Sp
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THE EDITOR'S LETTER BOX.

**** We wish it to be understood that we do not hold ourselves responsible for, and do not necessarily endorse, the opinions of correspondents. All communications must be accompanied by the names and addresses of the senders, though these need not necessarily be published.*

A. L. COLLINS H. MIDDLETON.

TO THE EDITOR OF "THE MINING JOURNAL."

DEAR SIR,—On behalf of my brother, Mr. Arthur L. Collins, who has left for the United States on professional business, I must ask your permission to refer to his late assistant's ingenious letter in your last issue.

Surely it is the merest evasion to bring in the names of various gentlemen who, according to Mr. Middleton, could confirm his story; it is very obvious that readers of *The Mining Journal* cannot refer to them. If Mr. Middleton desires to vindicate himself he has only to produce (*a*) his original agreement, and (*b*) any subsequent alterations or additions in writing. Until he does this I fear he must remain a much misunderstood person.—I am, your obedient servant, GEORGE E. COLLINS.

MYSORE WYNAAD CONSOLIDATED GOLD MINING COMPANY, LIMITED.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—I am glad shareholders found fault with the large amount of the directors and auditors' fees, and drew attention to the large debit balances in the accounts and to the company's immediate need of funds.

The Chairman's admission that the directors' fees have been discussed at every meeting is evidence of dissatisfaction for several years. I regret such absurdly sanguine views were expressed by the directors. Careful inquiry into the past history and present position of all the companies working to the north of the Nundydroog property will suffice to show shareholders the folly of indulging in them. I understand the Chairman thinks returns from crushings will pay expenses, that no more funds will be needed, but should this not be the case (a possibility admitted by him) he expects the debenture holders to come to the rescue and save reconstruction. All these hopes are due to an early disappointment. The trial crushing gave 45 ounces 16 dwts. from 125 tons, which is a yield of less than 7½ dwts. to the ton.

This company is only entitled to half the gold obtained. Surely there is nothing to warrant congratulations, but much to cause grave doubts and fears. It has taken the company three years to attain its present position. Will it be less before the property pays expenses, and how much longer before it can work at a profit and pay off the debentures?

From the following facts as to one of the companies working to the north of the Nundydroog property, I ask shareholders to draw their own conclusions. The Balaghat-Mysore Company, having been reconstructed, has—in addition to the purchase price of over £112,000—already spent more than £163,000. Though, for years it has had regular returns from monthly crushings, funds are again needed. It is rumoured a reconstruction with a liability of 5s. per share will take place. An average monthly return of nearly 800 ounces of gold is required even to pay expenses. This cannot be expected for some years. During 1893, 1892, 1891, 1890 and 1889, monthly returns were as low as 292, 109, 112, 197 and 145 ounces. The company obtained a loan of £35,000 (on a mortgage at 10 per cent.) which has to be repaid in less than three years with a bonus of 25 per cent., which will increase it to £43,750. Even if able to pay it off in 1896 it will have cost the company a further sum of £17,500 for interest. The cost of a loan of £35,000 will be no less than £61,250. The Mysore-Wynaad Chairman held, until a few days ago, the same position on the board of St. Augustine Mine (Limited).

Shareholders have not forgotten his sanguine views expressed at meetings of the latter company, and know how completely they have fallen short of realisation. Those who are not shareholders in this unfortunate concern would do well to peruse the reports of the last few years' meetings. To any one who has not lost money by belonging to this company they may even be amusing; to all they should prove instructive.

When the Chairman, at the meeting last April, was referred to his speech of the previous year, he replied he adhered to "every word" of it. He also informed the shareholders that he did not think there was the smallest chance of "a reconstruction," and said he felt certain that the company, with the funds at its disposal, would be made "a great success."

One shareholder considered the report "most unsatisfactory" and the company "on the eve of bankruptcy," and said he had the greatest esteem for the Chairman, but not for his convictions; another proposed a committee of investigation; another expressed sympathy with the Chairman, for "one ought always to sympathise with a prophet whose prophecies have been continually broken;" another considered £1390 for office expenses, rent, and secretary's salary "perfectly absurd." The present market value of this company is under £2000. Though it has spent £100,000 and been twice reconstructed, an attempt is now being made to raise £37,500 by a third reconstruction.

I strongly urge Mysore Wynaad shareholders to have a special meeting (at an early date) for the purpose of appointing a committee of the largest shareholders to enquire into the company's affairs, and to arrange an amalgamation with the Mysore West Company, the acquisition of a block of land from the Gold Fields Company, and a reconstruction.—(1) Reduce the present capital (£380,000) of these two companies to £100,000 in £1 shares, with a liability of 10s. thereon. This would produce £50,000 working capital.—(2) Give half of these shares to each company.—(3) Redeem the present debentures by an issue of 20,000 fully paid shares, half to each company. This would be a better security than the debentures now held.—(4) Provide for an issue of reserve shares at a premium.—(5) Give the Gold Fields Company fully paid shares for the land acquired.—(6) Appoint new directors and pay them by result.—(7) Deepen the present shafts several hundred feet, and sink one or more on the new ground.

The Mysore West Company holds 11,050 Mysore Wynaad shares, and if amalgamation takes place before reconstruction the former company will escape a heavy liability. I am in daily expectation of the final call of 6d. on Mysore West shares, as I presume it has been spent months ago.—I am, &c.,

"INDIA."

P.S.—Since writing, I have received notice of the Balaghat-Mysore reconstruction (if the debentures are extended to 1898, it will cost the shareholders an additional £7000), making a total of £68,250) and the Mysore West final call. I anticipate an immediate attempt will be made to reconstruct the Mysore West and Mysore Wynaad companies. Shareholders in these three companies should remove their directors and take prompt action if they wish to save further loss.

OUR BOOK CASE.

A NEW WORK ON MINING MACHINERY.

"Machinery for Metalliferous Mines." A Practical Treatise for Mining Engineers, Metallurgists, and Managers of Mines. By Henry Davies, F.G.S. (London: Crosby, Lockwood and Son.)

The reputation created by the well known mining works of the late Mr. D. C. Davies, F.G.S., seems to have descended in an amplified degree upon his son, Mr. E. H. Davies, F.G.S. Some of the new editions of the late mining engineer's works owe many of their best touches and much of their completeness and adequacy to the care with which Mr. Henry Davies has brought them abreast of the times, and to the assiduity with which he has performed the editorial function. The extraordinary rapidity characterising the invention and application of new types of machinery soon leaves in obscurity works upon these subjects which a few years ago were deemed authoritative, and renders the production of new ones an imperative necessity. This necessity in the one direction indicated by his title Mr. Henry Davies has undertaken to meet, and it may at once be said that he has fulfilled his obligation. Indeed, the broad area covered by the work, the accuracy and clearness of its descriptive passages, the judgment with which the best authorities are drawn upon and combined with the more graphic results of personal experience, and, lastly, the profusion and excellence with which the whole is illustrated, make it a work that may safely be recommended, not only to the student who has not yet relegated his text-book to the shelves, but also to the mining engineer of maturity, who is wise enough to recognise the value of a revision and strengthening of ideas, and to know that he has still something to learn. An additional commendation which may justly be given to the work is that the writer has managed to effect a happy reconciliation between the industry in its relation to the sciences, and the industry as a practical occupation. He inclines, indeed, more nearly towards the latter, but this disposition is an advantage, so long as it is not carried to excess, in a writer who avowedly addresses himself to the practical miner, and whose pages absolutely swarm with useful hints upon details connected with machinery control. There is little quotation in the work, but Mr. Davies has not omitted to assimilate into his narratives the ideas and opinions of the most competent judges of mining and engineering. In so doing, however, he has put the extracts into what is probably an improved garb, and they have gained in clearness and force. It may be hazardous to say that there is no important branch of so wide a subject that the author has not fully treated. At this moment, however, no such omission occurs to us. The work, too, is homogeneous. One part possesses all the merits of another. From cover to cover, from the chapter on "Water as a motive power," with which the book opens, to the broad and yet circumstantial dealing with the various methods of transport, with which it concludes, the work exhibits all the same characteristics which excite the confidence and attract the attention of the student as he peruses the first page. By its publication the literature connected with the industry will be enriched and the reputation of its author enhanced.

A BOOK FOR THE MINING STUDENT.

"Mining." An Elementary Treatise on the Getting of Minerals. By Arnold Lupton, M.I.C.E., F.G.S., &c. (London: Longmans, Green and Co.) Price 9s. net.

As the title page announces, this is a book exclusively for the use of beginners and mining students, to whom we can cordially recommend the study of it. Mr. Lupton is eminently competent to write a book of this kind, as he possesses a long, practical, and varied experience on the subject with which he treats. He has had 30 years' experience in practical mining, having been officially connected with mines as consulting mining engineer, colliery manager, and surveyor in Yorkshire, Derbyshire, Nottingham, Leicestershire, and many other counties in England, besides having visited many mines abroad, in France, Germany, Austria and the United States. For the last 20 years he has been responsible manager of coal mines, and for the last 16 years instructor and professor at the Yorkshire College. He is a member of numerous Institutes of Mining Engineers, and of the Geological Society of London, and by this means has had access to all the most recent and best information on mining matters. The book is profusely illustrated. In fact, there are as many as 600 engravings, which make it doubly valuable and interesting. We cannot conclude this brief review without a word of praise to the eminent firm who have published it. Externally, it is most attractive, and is well worthy of a place in the best of libraries. Altogether, it is one of the best books we have seen dealing with this special subject.

RUSSIA'S INDUSTRIES.

"The Industries of Russia." Translated by John Martin Crawford, U.S. Consul-General to Russia. (London: P. S. King and Son, 8, King-street, Westminster.)

We have been favoured with Vols. 1, 2, and 5 of this valuable publication, which was written and published for the World's Columbian Exposition at Chicago. Maps are issued with each. Volumes 1 and 2 deal with the manufactures and trade, and 5 deals with Siberia and the Great Siberian Railway. As well as being valuable these books are most interesting. They are readable from the first page to the last, the credit of which is, of course, due to Mr. Crawford, the translator. We understand that the remaining volumes, 3 and 4, are in the press, and will be published shortly

FORTHCOMING MEETINGS.

**** We shall be obliged if Secretaries or other Officials of Mining, Railway and other Companies' will be good enough to advise us as early as possible of the date, time and place of their forthcoming meetings - whether statutory, semi-annual, annual, general or extraordinary, confirmatory or adjourned —in order that particulars may be announced for the benefit of our subscribers and more particularly our country readers. Balance sheets, reports and other matter to be submitted at such meetings should, where possible, accompany the intimations of the meetings sent*

Name of Company.	Date.	Nature of Meeting.	Place.	Time.
Kapanga Gold Mining Co. ...	Feb. 5	General	Winchester Ho.	12 a.m.
Balkis Eersteling (Limited)..	Feb. 5	General	Winchester Ho.	2 p.m.
Bahia Blanca and N. W. R....	Feb. 5	General	Winchester Ho.	2 p.m.
London Chatham & Dover R.	Feb. 5	General	Cannon-street	12 a.m.
Columbia Gold Dredging Co.	Feb. 6	General	Cannon-street	2 p.m.
Balaghat & Mysore Gold Co..	Feb. 7	General	Cannon-street	11.15 a.m.
British North Borneo	Feb. 8	General	Cannon-street	12 a.m.
North Staffordshire Rly Co....	Feb. 9	General	Cannon-street	12 a.m.
Windsor and Annapolis Rly..	Feb. 9	General	Cannon-street	11 a.m.
New Zealand Midland Rly ...	Feb. 9	General	Cannon-street	3.30 p.m.
Spitzkop Farm Gold Co	Feb. 9	General	Winchester Ho.	2 p.m.
Hull, Barnsley and W. Riding Railway Company	Feb. 9	General	Winchester Ho.	12 a.m.

RAILWAY MEETING.

GREAT EASTERN RAILWAY COMPANY.

A dividend of 1½ per cent.

THE 63rd half-yearly general meeting of the shareholders in the Great Eastern Railway Company was held on Tuesday at the Cannon-street Hotel, the chair being occupied by Lord CLAUDE HAMILTON.

The CHAIRMAN, in moving the adoption of the report and accounts, spoke of the retirement of the late Chairman, Mr. Parkes, whose health, he regretted to say, had not very much improved since he left the board. The past six months had not been a very favourable time for a new Chairman to assume his duties; but he hoped that the shareholders would feel that though the report showed a great diminution in revenue, it was not so bad as might have been feared, and that the accounts would compare favourably with those of other railways. Upon passenger receipts there was an increase of £11,473 in the first class, a decrease of £43,719 in the second class, and an increase of £32,930 in the third class, making a net increase for passenger receipts alone of £684. Besides that the amount for season tickets had increased by £3044 and the amount for parcels £2632, making a total increase for coaching receipts of £6363. It must be admitted, of course, that the increase was a small one, considering that the past half-year was the second half of the year, in which they generally expected a very large increase. But the second half of 1892 gave similar results, not giving them then the expansion they had expected. With regard to the past half year, they considered the decrease was mainly owing to the decreased spending power of the population at large. The shareholders were aware that during the whole of last year the second class had been abolished in the country districts by this company, though it had been retained in the metropolitan and suburban districts. The results of that abolition had exceeded their expectations. It was anticipated by the directors that the whole of the second class passengers would transfer themselves to the third class, and, if so, they stood to lose £22,000 for the whole year. It was a fact, however, that very nearly one-third of the passengers who had previously travelled second class had gone into the first class, with the result that in the country districts there was an increase in the first class passenger receipts of £18,716, and in the first class season tickets of £8576, which, with a diminution in Government duty of £3183, brought up the net increase in the first class to £30,015 for the whole year. To his mind that proved the wisdom of the course adopted. The serious decrease in the revenue of the company, and the consequent decrease of the dividend on the ordinary stock, was mainly due to the deplorable coal dispute. That dispute injured the company by causing a loss of 699,861 tons of coal traffic, involving revenue receipts of no less than £118,680, as compared with the corresponding half of 1892, and it also injured them to the amount of the increased cost of the coal purchased for the locomotive and other departments of the company. While the number of train miles run during the half year showed a decrease of 718,469 miles, there had been an increase of £34,516 in the cost of coal consumed in the locomotive department alone. There had been a decrease of £33,425 in their merchandise traffic, which was due mainly to the general bad trade, the indifferent harvest, and the great falling off in the fishing traffic caused by the disastrous storms in the latter portion of the month of November last. There had been a decrease in the cattle traffic owing to the scarcity of food following the drought of last summer and the early part of the autumn, and also owing, to some extent, to the impoverished condition of the farmers throughout the districts served by the company. The new Continental route *via* the Hook of Holland was working with great satisfaction, and had fully realised the anticipation of the directors. There had been an increase in the number of passengers carried to the number of 10,655, and in the coming year they anticipated a very large increase owing to the Antwerp Exhibition, which would open on May 1. By that time the company would have ready for service their two new steamboats, but it would certainly be necessary for them to have a fourth steamer of a similar class to ensure perfect regularity in this service. Both the British and foreign travelling public seemed to thoroughly appreciate the new service. Owing to the coal strike the directors were compelled to put some 6000 of the company's men on short time and smaller wages. They very much regretted this and they trusted that the circumstances of the company would in due course warrant them in again placing the men on full time. Satisfactory progress had been made during the half year with the construction of the new portion of Liverpool-street Station. All the platforms, booking offices, and waiting rooms would be ready for the summer traffic of the present year. The widening of the railway between Bethnal-green and Hackney Downs would probably be completed in July next, and a considerable portion of the widening between Maryland Point and Ilford was expected to be completed about the same time. With regard to the future, if nothing exceptional occurred, the directors would not have to ask for any new issue of capital until July, 1896, as the present capital powers would be amply sufficient until then.

Colonel MAKINS seconded the motion, which was adopted after a brief discussion.

Shortly after the proceedings terminated.

MR. PICKARD, M.P., AND THE FUTURE WORKING OF THE CONCILIATION BOARD.—At Barnsley on Tuesday Mr. B. Pickard, M.P., President of the Miners' Federation of Great Britain, referred to the present state of affairs and the Board of Conciliation. He remarked that some colliery owners were making it very unpleasant for the men who had only rightly demanded a living wage. They had in Yorkshire up to the 26th inst. 721 men out of work who were in the Association. Many of the owners, Mr. Pickard thought, could have found the remainder of the work. However, it had suited the purposes of these gentlemen not to carry out the Rosebery agreement. If this condition of things continued, whether Lord Shand or any other lord was the Chairman of the Conciliation Board, it must be clear that the board could not work with any degree of harmony. Very few of the colliery owners were connected with the local boards of conciliation, and therefore could not be connected with the joint board. There were about 20 firms in Yorkshire evidently carrying out the Rosebery arrangements, and it might be fairly assumed that these 20 firms covered the ground of those who were immediately and directly connected with the local board of conciliation and the general board. The remainder, it appeared, such as Lord Masham and others, would take their own course. If the joint board established a code of rules which would put the workmen and employers in a position to bind these men to carry out the Rosebery arrangements all the better.

MR. CHAMBERLAIN ON THE PROSPECTS OF TRADE.—Mr. J. Chamberlain, M.P., speaking at the annual dinner of the Birmingham jewellers and silversmiths on Saturday, said he augured great things for trade in the future. Trade was very bad in all parts of the country, and in the endeavour to meet this depression they had to consider the history of the causes. They were self-evident. The decline was caused by the falling off in the demand. That, again, was due to the foolish action of some foreign countries which raised a wall of tariffs which were even more injurious to themselves than to us, and it was due partly to the unrest and disquiet which universally prevailed, and which were owing to a great extent at any rate to the existence of those vast armies which confronted each other upon the continent of Europe. For this condition of things nothing was to be done except to urge the Government to lose no opportunity of finding fresh markets and developing old ones, and at the same time to maintain our defensive preparations, and above all our navy, in such a condition that our control of the ocean highway should be absolute and unquestioned.

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LONDON: FEBRUARY 3, 1894.

REVIVAL IN BRITISH TRADE.

THE New Year has not been long in existence before it has shown signs of that revival in some of its branches which, in the views of certain trade authorities, events towards the close of 1893 prognosticated. A revival is just now appearing in the northern districts of the country, which cannot be passed over in silence, and which is probably the precursor of a revived trade movement of wider and more far-reaching extent. We refer particularly to the altered condition of things which is to-day to be noted in the shipbuilding centres of Scotland, the Tyne and the Wear, and Barrow-in-Furness, and to the upward tone which has suddenly attached to the iron and steel markets in those centres. Before, however, proceeding to the details of this revival, we would call attention to some other circumstances which at the present time are making for an improvement in trade. Among those who are carefully watching the signs of the times on the Continent, regarding the possibilities of an outbreak of international hostilities and its consequent effect upon commerce, greater confidence exists at date in the prospects of peace than for a long while past. Everyone admits that it is from France or Russia that the first spark which may ignite the Continental magazines is likely to come, and the increased belief now entertained in the unlikelihood of any early disturbance arises from the resolution of the French Government to convert the national Four and a-Half per Cents. This stock is almost as large as half the British National Debt, and the work of conversion to which the Government have now set their hands must, it has just been pointed out by a leading financial authority, occupy fully two years. The maintenance of peace by France during that period will be a necessity if the project is to be carried through without risk; and it is assumed that on her part Russia will be unlikely to take any forward steps without the active support of her French ally. It is very improbable that Germany will take any initiative in the matter of war unless provoked by one or other of these two powers, and commerce and industry may therefore fairly rely upon certainly two years of unbroken relations. Another influence which is calculated to powerfully assist trade is the large augmentation now observable in gold production. During 1893 the gold production of South Africa alone was about £5,250,000, and a decade ago practically no gold at all was coming from that quarter. The production in 1894 is certain to be a still further advance upon that of 1893, and with some other of the gold producing countries of the world in the same circumstances it would be in no way surprising if a rise in prices were to occur. The revival in Scotland and the North of England, to which we referred in opening, is essentially the result of the increased energy which has been imparted to trade by the commencement of the additional orders for war ships, which the Government have wisely enough embarked upon.

The latest information seems to show that after all eight new war vessels, as originally rumoured, will most probably be built at a cost, in all, of some seven millions sterling. Four of these vessels are to be built in the Royal yards and four by contract. The Naval Construction and Armaments Company, Barrow; Messrs. J. and G. THOMSON, Glasgow; and Messrs. HARLAND and WOOLF, Belfast, are among the private firms who have been invited to tender, and it is understood that the latest date for receiving the same is February 27, at the Admiralty offices. In addition to the line-of-battle ships, the Naval Construction Company and Messrs. THOMSON have each already contracted to build a cruiser for mercantile protection purposes 500 feet long, to cost £800,000, and with a displacement of 14,000 tons. Not only Government work, but private shipbuilding also, exhibits greatly increased vitality. The berths on the Clyde and on the North-east coast are getting more full of work, and at Barrow also private orders are increasing. At the Wear shipyards the vessels in hand at the present time represent over one hundred thousand tons, an increase on this time last year of twenty-five thousand tons. The yard of the Naval Construction Company at Barrow presents a very busy scene. They have vessels in course of construction in various stages, representing forty thousand tons, and increased activity is observable every day. Already there is an increase in the contract prices of new steamers, owing to the advanced price of steel plates, angles, and other shipbuilding material. In the case of a three thousand ton vessel the advance, it is stated, is represented by about fifteen hundred pounds, while a five thousand ton vessel, which would have been contracted for three weeks ago at twenty-nine thousand pounds, cannot now be obtained much under thirty-one thousand pounds. The effect of all this revived energy in shipbuilding—and which, as regards private owners, is in great part the result of the somewhat better freights now obtainable—is a conspicuous improvement in the state of business at the steelworks over the border and in Cleveland and Lancashire, and higher prices also in pig iron circles alike for forge and foundry and hematite qualities. The present feeling at the steelworks in Scotland is better than it has been at any time for more than a year past, and greater confidence distinguishes the pig iron markets of Glasgow, Middlesborough, and Barrow, while the outside public are beginning to take more interest in the exchanges, as they usually do when general trade prospects improve. A fillip has been imparted to the steel mills by the distribution of a first Government contract of between 17,000 and 20,000 tons of steel-plates, and this better buying has been followed by the placing of enlarged contracts by private builders on th Clyde and Tyne and Wear. An advance of about 5s. per ton has already taken place in the quotations of steel-plates, steel channels, and the like. By this increase ship-plates on the Clyde are raised to £5 10s., angles £4 15s., and bars £5 17s. 6d. In some cases 2s. 6d. more per ton is being sought. In Cleveland, steel ship-plates have been advanced to £5 17s. 6d., and iron plates to £5. Steel angles are £4 17s. 6d, and iron angles £4 15s., while common iron bars are £5. In Lancashire, manufactured steel shows a decided stiffening in prices, and there is more business doing, steel bars being £6 2s. 6d. to £6 5s., boiler-plates £6 10s. to £6 12s. 6d., and billets £4 2s 6d. to £4 5s. We give these prices merely to show the tendency of the market at the moment. It is no business of *The Mining Journal* to discuss whether Lord BRASSEY is right in thinking that the total expenditure during the ensuing five years upon British Navy additions ought not to be under £25,000,000, and in declaring, as he has just done that £30,000,000 would not be excessive. Nor are we concerned in attempting to decide between a shipbuilding engineer of such renown as Lord ARMSTRONG, who expresses a strong predeliction for a large fleet of smart cruisers of relatively small tonnage, and Lord CHARLES BERESFORD, who wants 18 new monster ships of 14,000 tons each, and 12 of between 10,000 and 11,000 tons.

But British iron and steel masters and armour-plate makers

will be distinctly interested in Mr. WHITE's declaration of a day or two ago that during the past eight years 32 million sterling has been expended in new vessels. Five years ago, after the passing of the Naval Defence Act, the Admiralty started with the intention of adding within the succeeding five years 70 ships to the Navy, and Mr. WHITE announces that when that period ends, on March 31st next, 61 of the ships will be completed and ready for service. What an expenditure of so large a sum must have meant to British industry can be easily divined; but for this Admiralty expenditure it is clear that labour in this country must have been much worse off than the experience of the last five years represents, and our steelworks and engineering yards must also have been the scene of greatly less activity. Additional emphasis is lent to these figures by the improvement in trade that is now appearing. New expenditure by the Admiralty will mean increased noise of hammer and machinery at numbers of England's great industrial establishments having to do with heavy metal work. And not in iron and steel only, but in other industries of the country, we may, as spring advances, expect to see quickened movement. The important Lancashire cotton interests it is often noticed, often sympathise with iron in the course of the markets, and what is true of cotton relates also to some other branches of commerce. Already, railway traffic returns are going up. The increase on the railways of the United Kingdom last week exceeded £57,000, and the aggregate increase for the four weeks which have elapsed for the current year is over £109,000, as compared with the corresponding period last year. The newly-published reports and dividends for the past half year in connection, not only with the railways, but also the banks of the country are also unexpectedly satisfactory. The statistics of trade in nearly all branches of enterprise were so unequivocally bad last year, and especially during the second half of the year, that it seemed as though public anticipations could hardly be pitched low enough. The reports and dividends that are now issuing are therefore the more gratifying. The banking interests of the country have scarcely suffered at all, and though the railway companies in many cases have been compelled to reduce their dividends, the results all round are greatly better than had been looked for. It is evident that the contraction of financial operations last year was mainly in Stock Exchange, and probably speculative business. This view is supported by the fact that the new issues reached only forty-nine millions sterling, as compared with eighty-one millions in 1892, and two hundred and seven millions four years ago. As regards the railways, so little was expected after the long coal strike, and the enormous and continuous decline in traffic attested by their published returns from week to week, that their dividend declarations are remarkable, and railway stocks are recovering from the late depression by leaps and bounds. One of the most marked features of trade as February opens is the continued advance of the stocks of the great mineral carrying lines. One of the circumstances which is certain to assist forward the trade revival is the smallness of stocks of nearly all materials in the hands of traders. Everything goes to show that these were hardly ever before so low, whether reference be made to home or foreign buyers. Any increased demand for finished materials or any legitimate promise of the profitable investment of capital in directions which have of late been starved must immediately result in a replenishment of stores and a consequent expenditure of money which cannot fail to greatly minister to the prospects of enlarged industrial activity.

THE ROYAL SCHOOL OF MINES.

NOT only the Royal School of Mines, but the whole profession of mining and metallurgy, is to be congratulated upon the remarkable measure of success attending Monday's dinner at the Criterion Restaurant. Some superstition which has survived the ironies of the Thirteen Club, or else some recognition of the physiological fact of a complete change in the human frame every seven years, has led mankind to attach a peculiar importance to the number twenty-one, and it was accordingly a circumstance of happy augury that the twenty-first annual dinner of the Royal School of Mines should have transcended all preceding ones. The representative character of the gathering, and the spirit of amity which prevailed would, by themselves, have given the proceedings a happy and pleasing tone. In addition, however, there was present a small knot of orators, whose gift of speech must ever occasion the highest enjoyment to those who are able to distinguish valuable from valueless talk. First among the speakers, both in style and thought, came Professor RÜCKER. The abundance of his humour, reminding one at first thought involuntarily of a classical writer whose name has been made into a synonym for a certain delicate, amiable kind of irony and criticism, fell in clear, polished sentences upon appreciative ears, and the banqueting hall echoed again and again with the applause of his hearers. Post-banquet humour is sometimes forced and artificial, but this speech of Professor RÜCKER, and, indeed, with hardly an exception, those of all his predecessors and successors in the toast-list, were replete with spontaneous pleasantries befitting the occasion. Despite the danger of degenerating into what is vulgarly, but expressively termed "talking shop," one cannot but exceedingly regret that Captain ABNEY remained mute during the evening. Some few words, spoken with "the living voice," upon the spectroscope or the latest reduction of a compound substance, would have carried more interest than the same phrase set into the cold fixity of type. However, it should not be forgotten that the majority of the guests were familiar with such opportunities of hearing great men upon great subjects. For the rest, those who were not can consult the publications of the Learned Societies, which were so enthusiastically toasted during the evening. Perhaps the most important consideration in connection with the dinner is its instrumentality in promoting a proper professional spirit amongst mining men. "Hawks dinna peck out hawks' een;" nor should the metallurgist or the miner be actuated by any but the most kindly feeling towards his fellow. One speaker took occasion to foreshadow an age when industrial warfare should cease, and presumably in this he included the professional branches of industrialism. All indecorous professional competition has long been a thing of the past, and its death is obviously due to the many occasions of meeting in social concord such as the dinner itself afforded. Nothing has been more pleasing than the spirit and tone which prevailed throughout the whole of the proceedings, and the most optimistic opinion would have been founded by a casual visitor upon his impressions, both of the present and the past, of those men into whose hands is entrusted the name and reputation of one of the most important branches of knowledge and practice in the world.

OUR SUPPLEMENT.

AS in the last and present issue we have been dealing rather extensively with Western Australia and her gold fields, to which attention is now being directed as one of the coming gold mining countries of the world, we present our readers with a coloured map of this colony, as it will make more clear to them the information we have endeavoured to impart. We believe that no map on so extensive a scale has before been issued by any newspaper, so that our own will be a novelty in this respect. It is issued from the Department of Lands and Survey, Perth, W.A., and contains all the most recent information connected with the Colony, viz., railways, boundaries of land, divisions, and gold fields, stock routes, telegraph lines, agricultural areas, steamer routes, routes to gold fields, mail routes, &c. It will thus be found a splendid reference map and of great value to all who take an interest in the colony, since it gives within reasonable compass (28 inches by 18 inches) the results of all recent investigations and explorations, with proposed lines of railway. In this connection we might draw the attention of our readers to later and more confirmatory evidence of the richness of the Coolgardie field. By this week's mail we hear of the further finding of exceedingly rich stone in Bayley's South Mine. This discovery has been made at a depth of 110 feet, and the quartz is reported to be of the same class as that which has made the Reward claim famous, though it is not on the same line of reef. Further, we learn that the interest excited by the progress made in this field has led the Idaho Exploring Company to devote its attention to this region, it having the option of purchasing a property near the Great Dundas Mine. Those companies who possess properties at or near to this promising district would seem to be peculiarly fortunate just now, and, therefore, the shareholders in the Idaho Exploring have good cause to congratulate themselves and to look forward to the future hopefully.

NOTES AND COMMENTS.

WE are one week nearer the promised revival of trade predicted to make its appearance in the spring of this year. Business during the past seven days has certainly shown material improvement. In every direction there has been some sign of revival, though in many cases, it is true, so slight as to be scarcely perceptible. The mining, stock, and share markets have been active, with an undercurrent of firmness, especially the former, in which the most conspicuous feature has been the marked revival in Indian shares. This has had an animating influence upon the Miscellaneous securities, improvements, in many instances, having taken place. Money has been fairly plentiful, and its value in the open market has, during the last few days, been of an upward tendency. The reduction of the official discount rate of the directors of the Bank of England to 2½ per cent. was not unexpected. At the present moment the Bank is undoubtedly in a strong position, the return issued on Thursday showing a further moderate gain of strength. Another acceptable feature of the week has been the passing of the Wilson Tariff Bill in the House of Representatives. It was carried, amidst the greatest enthusiasm, by the unexpected majority of 65. With the passing of this a further impetus has been given to the revival which is setting in, and we may all the more hopefully look forward to the longed-for consummation to which events are daily tending.

IN the February number of his magazine—the *Investors' Review*—Mr. A. J. Wilson resumes his criticisms of the Bank of England, but this time in words of even greater denunciation. He attacks the directors in such a manner, and makes so many serious and specific charges as to render it almost impossible for them to remain silent. He brings forward very grave accusations against the good faith and honesty of the Bank officials, which we do not care to reproduce. He protests against the suggestion that the statements in the January number of his magazine were supplied by discharged or dismissed clerks of the Bank. The facts he published, he says, were more or less common property "on 'Change." There are 26 men on the directorate, and these gossip to their friends, and the gossip finds its way to Lombard-street, and can be picked up there by those who have ears to hear. On one point in the management of the Bank Mr. Wilson speaks with emphasis. Sir William Harcourt's intention to press for a resumption of the annual parliamentary return dropped by the Bank in 1879, will, he says, be resisted tooth and nail by the Bank of England and other bankers. In a word, Mr. Wilson's charges are not now limited to those of mismanagement and want of judgment. He alleges a great deal worse than this. In point of fact, he accuses responsible persons in the service of the Bank of England of gross misconduct—to put it mildly—and implies that the directorate are guilty of unpardonable negligence and inexcusable dereliction of duty. He even promises more, but he has already said enough to shake confidence, and to make us doubt the stability of this great and time-honoured institution. The directors cannot maintain silence any longer. How, or when they will answer is not so much a matter of moment as *what* they will answer, for a great financial authority, such as Mr. Wilson is, would not make these serious allegations unless he felt himself on certain ground.

CONSIDERABLE interest has this week been centred in the speech of the Hon. Cecil Rhodes, as cabled from South Africa. This memorable speech was delivered at a banquet given in his honour by the citizens of Cape Town, in the form of a welcome on his return from Matabeleland. When Mr. Rhodes entered the hall he received a perfect ovation, which was repeated when he rose to respond to the toast of the evening. This is evidence of the unbounded confidence he has inspired in the hearts of the colonists, and that the enterprise of the Chartered Company, in which he has been the prime and enthusiastic mover, has met with their hearty approval. Mr. Rhodes did not give utterance to much new matter. He simply reiterated what we have heard from him before. If there is one characteristic more prominent than another in the nature of this great man it is reticence. He never lets us into the secrets of his schemes and movements until they are assured of success. It is to this rare quality of his that he undoubtedly owes the high position he holds, and the authority with which he is invested. We never hear of him failing, and a man who is always successful in what he undertakes is sure to meet with admiration. No doubt he is himself conscious of many failures, but this is his own private knowledge, of which the world is ignorant. Had he chosen he could have made his speech the vehicle of information for which the world is anxious and in which we are all so deeply interested. But he preferred to maintain silence. We must wait patiently for the material outcome of his ideas and schemes, but we may do so in the hope that it will be conducive to the prosperity of trade and commerce, and, above all, from our own point of view, of the mining industry.

CAPTAIN LOVETT CAMERON'S speech, delivered on Tuesday before the Central African and Zoutpansberg Exploration Company, reads, except for its comparative avoidance of detail, a good deal like one of Mr. H. M. Stanley's books. Africa is now to the English investor what India was to his predecessor in the days of the far-famed company whose interests Warren Hastings so energetically promoted and maintained. A mere mention of the Dark Continent is a suggestion of enormous wealth, and calls up before the mind most seductive visions of valuable gums, fibres, oils, cinnabar, india-rubber, vines, and nutmegs, somewhat wanting, perhaps, in detail and firmness of outline, but so much the more fascinating. To pass from imagination to probable fact, the prospects of the company, as described by Mr. Fox in his short, pithy, speech, are sufficiently bright to draw more than a few shrewd business men into the financial lottery. Evidently the country—or at least that part of it under the control of the company—is a fine one, and only needs what is generally described as "opening up" to make it an extremely profitable basis of commercial operation. Moreover, there is certainly energy enough amongst the servants of the company to improve upon any really valuable opportunities which may be thrown into their way. A new country, replete with hitherto undeveloped wealth, and as yet not over-run with any wealth-hunters, does not fall sufficiently often into the way of a company to lead them, from mere indifference, to neglect the opportunity. Such a train of thought leads one to conjecture what civilised man will do when the last limit of possibility of expansion is reached, and there is no more of what, to borrow a mining term, may be called "virgin land."

MR. CHAMBERLAIN has been giving the country the benefit of his opinion and advice on the present depression in trade. By this time, when so much has been said upon this subject, by authoritative persons and by unauthoritative; by statesmen, politicians, and the leading lights of every phase of commerce and trade, it is a difficult task to take an original view of the situation and to form and express an original judgment. Mr. Chamberlain is not the first one to tell us the depression is but temporary. We have been told this over and over again by all who think themselves competent to form a guiding opinion. The difficulty is to ascertain and to grasp fully the amount of elasticity each individual allows to the word "temporary." This depression has already ranged over a long period of time. In our serious moments we cannot help but think that that time has been tremendously long, and if we do prevail upon ourselves to describe it hopefully as nothing but a temporary phase, which is bound to take place in the nature of things, we feel a doubt whether we are not really deceiving ourselves and turning our backs upon reality. It were better after all, probably, not to seek for consolation in the use of palliative adjectives, such as is the word "temporary," but to let the simple substantive "depression" stand before us in its stern nakedness, and to face it with the utmost resolution possible. The wiser thing to do would be to ascertain the causes of its existence; what was the indiscretion on our part that gave birth to it, and then to see if some remedy cannot be found or some means resorted to to remove it from our midst.

THIS is what Mr. Chamberlain has been endeavouring to do. In his speech, which he delivered on Saturday last at Birmingham, before the Jewellers' and Silversmiths' Association, he advised us that times of depression could be made the period of fruitful work; that instead of idly lamenting the ill-fortune that has overtaken us we could resolutely make it a time of study and reflection; aye, of discreet sowing, from which we might, with watchful ease, reap abundant harvest. At any rate, this is the inference which we put upon the following remarks of his—"He hoped, however, that the temporary depression would

speedily pass away, and if it did there would be some *compensation* for it, because it was only in times of depression that manufacturers were able to put forward their best efforts to produce economical management and manufacture and to find new outlets for their produce." The italics are ours. This is really for us a time of experience, when, in spite of ourselves, our eyes are being opened to anomalies in our midst, and when we might benefit from the knowledge thus learnt. How often are we told that experience is the best schoolmaster! The greater the experience the greater is the lesson taught, and the more useful may the newly-acquired knowledge be.

THE causes assigned by Mr. Chamberlain for this trouble that has overtaken us are to him self-evident. It arose from the falling-off in the demand, and that again was due to the foolish action of some foreign countries which raised a wall of tariffs, which was even more injurious to them than it was to us. And it was due partly to the unrest and disquiet which universally prevailed, and which was due to a great extent, at any rate, to the existence of those vast armies which confronted each other on the continent of Europe. For this condition of things nothing was to be done by this country except to urge upon its Government to lose no opportunity of finding fresh markets, and developing old ones, and at the same time of maintaining our defensive preparations, and above all our navy, which was the first of our real defences of the world-wide Empire of the Queen, in such a condition that our supremacy, our control of the great highways of the ocean—by which alone our trade could be carried on, with the possessions and dependencies of the Crown—should be absolute and unquestioned." Although this may not be indicative of a comprehensive vision or of profound knowledge, it nevertheless gives a solution with which most will heartily agree. Most of these causes have been, or are in the course of being, removed, but there are others more difficult of discovery, more difficult to reach, and thus more difficult to remedy. But, happily, nature is bound in the end to find out her transgressors, and this discovery is not infrequently co-temporary with their removal.

A RETURN just issued from the Home Office gives the number of fatal accidents in mines during the past year, the statistics of which are divided into two parts, and include those classed under the Coal Mines' Regulation Act and those under the Metalliferous Mines' Acts. The number of lives lost in coal mines amounted to 1056, or 40 more than in 1892, the increase being almost entirely due to the larger number of accidents from explosions of fire damp. In metalliferous mines the total was smaller, being only 65 for the year, though here, unfortunately, an increase of 13 is recorded. No deaths from fire damp explosions in these mines occurred, and the increase is more than accounted for by a return of 20 deaths from irruptions of water into mines in the south western district, of which there were none in 1892. The summary of separate fatal accidents in these mines gives 39 for the year, or nine less than in 1892; and of these 16 were from falls of ground and 12 occurred in the shafts. It is a melancholy reflection that, notwithstanding the great care that is taken, and the great advances science is making to assure security to those whose employment is in the bowels of the earth, the death roll is so formidable, and seems to be increasing, instead of decreasing; yet we must look these facts in the face and derive from hope what comfort we can.

A PROPOSAL is being put forward by the directors of the Balaghat-Mysore Company to re-construct the undertaking. In circular issued to the shareholders the directors give the following causes which have led them to put forward this resolution for the raising of further capital. "The low returns from the mines during the past few months, caused by the temporary falling off in the width and value of the lode, and difficulty in keeping the lower portion of the mine free from water, through breakages in the pumping machinery, have rendered it necessary to take some steps for supplying the company with further working capital, so that the operations may be proceeded with to the best advantage. After careful consideration the Board has come to the decision that the best course is to reconstruct the company." Though this may be unpalatable to the shareholders, they will, no doubt, along with the directors, see the necessity of this course of action. It is unfortunate, certainly, but the shareholders may console themselves with the reflection that no one is blamable and that it is unavoidable.

PETROLEUM IN SOMERSET.—For several years past the tenants of Ashwick Court, Shepton Mallet, the residence of Dr. Newton Wade, have complained of the fouling of the well whence the supply of water for domestic and other purposes is obtained. During the drought last year the cause was discovered to be petroleum oil, of which a considerable quantity was obtained from the well. Afterwards expert advice was sought, and on Friday last Professor Boverton Redwood and Mr. Topley, Government geologist, proceeded to the spot and surveyed the neighbourhood. On Saturday they continued the survey, and examined a number of witnesses. The water in the well was then found to be only slightly affected, but the oil globules were pronounced by Professor Redwood to be characteristic of crude petroleum, and this, together with the isolated position of the house and the quantity of oil spoken to by witnesses, satisfied the experts that no accidental leakage had occurred into the well. This opinion was soon corroborated, for as water was pumped out the quantity of oil increased. The place is on the northern border of the Somerset coalfield.

BOOKS RECEIVED.

"A Treatise on the Law of Support." By George Banks, M.A., of the Inner Temple, Barrister-at-Law. London: Sweet and Maxwell.

"Kelly's Directory of the Engineers, Iron and Metal Trades, 1894."

"Advertising." A Monthly Journal. Edited by J. H. Osborne, Esq.

"A. Cornforth and Co.'s Investment Circular."

"The Geological Magazine." Edited by Henry Woodward, LL.D., F.R.S., V.P.G.S., F.Z.S., &c.

OUR CITY ARTICLE.

FRIDAY EVENING.

THE MINING MARKET.

A firm tone in Kaffirs and Land shares.—Diamonds relapse and rally.—Indians to the front.—Miscellaneous firm and steady.

ONE of the features of the past week has been a fairly active tone in the South African market. Both Kaffirs and Land descriptions have benefited from the active business that has been done. In contrast with this, however, Diamond shares have been extremely flat until the latter end of the week, when a better tone distinguished them, and both De Beers and Jagers recovered what they had lost in the earlier portion of it. There is really but little to chronicle or to make an exception of in the South African market, where all have more or less improved. The making-up prices on Monday showed some further important declines. During the past fortnight there has been a fall of $\frac{13}{16}$ in De Beers, which carried over at $14\frac{7}{8}$ ex-dividend, as against $16\frac{1}{2}$ last time, the drop being partly due to the speech of Mr. Cecil Rhodes at Cape Town and partly to the threatened increase of the import duty on diamonds in the United States. Pioneer made $\frac{5}{8}$ lower, but Jagers were $\frac{1}{16}$ to the bad. New Rietfonteins lost $\frac{5}{8}$, and Aurora and Knight $\frac{1}{4}$. Among miscellaneous, however, there was a rise of $\frac{3}{4}$ in Tolima A and B, and of $\frac{3}{8}$ in Champion Reef and Ooregum Preference. The miscellaneous market has been conspicuous for the firm tone displayed by Indians, which lasted throughout the week. In sympathy with this the other securities have also improved, though not to such a prominent extent. Altogether, the mining market all round has been distinctly better, and purchasers do not seem to be so easily frightened at lower quotations when they see them.

British Mines.

The Cornish Share Market has been fairly steady during the past week, though business has been restricted, and in some cases shares have been scarce, owing to the listlessness engendered by the prevailing depression in the tin market. Killifreths have been freely dealt in, and Dolcoath and Tincrofts enquired for, but quotations in most instances are more or less nominal.—Risen: Blue Hills, 1s.; Cook's Kitchen, 1s.; Dolcoath, 10s.; Killifreth, 7s. 6d.; Wheal Basset, 25s.; and Wheal Grenville, 20s.—Fallen: South Crofty, 2s. 6d.; West Frances, 5s.; and Wheal Agar, 10s.

South African Shares.

The making-up prices on Monday exhibited some rather important declines, though in a few cases, notably Meyer and Charlton and Geldenhuis Deep, there were substantial improvements. Chartered was also conspicuous, and showed a good advance, but diamond shares were lower. In this department of the market rates were fairly easy. Business for the new account found Chartered much enquired for, active business being transacted, owing undoubtedly to the tenour of Mr. Rhodes' speech, which had just appeared in the morning papers. The result of the day's transaction was an advance to 26s. Another strong feature was Consolidated Gold Fields. Other land shares were likewise firm. Amongst Kaffirs, Wolhuter, Salisbury, and Stanhope improved $\frac{1}{16}$ and 1-32nd. On the other hand Rietfonteins were easier, as well as New Primrose, Cities, Crown, Meyer and Charlton, Langlaagte and Durban were unchanged. Amongst diamond shares De Beers advanced $\frac{1}{8}$, Jagers being a fraction lower. On the following day the market again had a firm tone. Chartered were still buoyant, and Consolidated Gold Fields were in good demand. The influence of their activity spread throughout the land shares. Exploration, Crown Reefs, and Meyer and Charlton improved $\frac{1}{8}$, whilst recoveries of $\frac{1}{16}$ took place in Cresus, George and May, Glencairn, Langlaagte and United Langlaagte. Sutherland Reefs were also bought on favourable accounts of the mine development, the shares rallying to 2s. 1½d. The only weak spot in the market was diamond securities, De Beers and Jagers showing a further decline. The following day witnessed further active dealings in Chartered, though they did not result in any conspicuous advance in the shares. In fact, both these and Consolidated Goldfields remained unchanged. The other land shares were also firm. Amongst Kaffirs there was a demand for Simmer and Jack, the shares improving $\frac{3}{8}$, Princess advanced $\frac{1}{8}$, whilst advances of $\frac{1}{16}$ occurred in Cities, Crowns, Geldenhuis Deep, and Spes Bona. Sheba were also enquired for, the shares going up 1s. 6d. Diamonds were still flat, both De Beers and Jagers relapsing. Later, however, there has been quite a revival in diamond shares, and both De Beers and Jagers have been a feature in this market. Although Chartered have not been extensively dealt in, the tone remained steady, and the same can be said of the other Randt descriptions. Kaffirs have shown but little change, the tone continuing generally firm. The following are the week's changes:—Risen: Bechuanaland, 1s. 3d.; Central Montrose, 6d.; Chartered, 1s.; Consolidated Gold Fields, 3s. 9d.; Frank Johnson, 2s. 6d.; George and May, 2s. 6d.; Glencairn, 2s. 6d.; Langlaagte, 1s. 6d. (allowing for dividend); Lisbon, 6d.; Luipaards Vlei, 1s.; Mashonaland Agency, 1s. 3d.; Meyer and Charlton, 2s. 6d. (allowing for dividend); Moodies, 1s.; Nigel, 2s. (allowing for dividend); Northern Transvaal Land, 1s.; Oceana Development, 2s. 6d; Oceana, 12s. 6d.; Orange Free State, 10s.; Paarl Central, 1s.; President Land, 1s. 6d.; Princess Estate, 2s. 6d.; Reads Drift, 1s.; Rietfontein, 2s. 6d.; Salisbury, 2s. 6d.; Sheba, 4s.; Simmer and Jack, 7s. 6d.; South African Exploration, 10s.; South African Gold Trust, 1s. 6d.; Southern Land (fully paid), 6d.; South Simmer and Jack, 6s. 3d.; Spes Bona, 1s. 3d.; Spitzkop, 6d.; Transvaal Estates, 1s. 6d.; Transvaal Exploration, 6d.; Village Main Reef, 2s. 6d.; Witwatersrand Knights, 1s.; Zambesia, 2s. 6d.—Fallen: Block B, 6d.; Bultfontein Consolidated, 6d.; Crown Reef, 2s. 6d.; De Beers, 2s. 6d.; Heriot 6d. (allowing for dividend); Joe's Luck, 1s.; Jubilee, 7s. 6d.; Mozambique, 1s. 3d.; New Jagersfontein, 12s. 6d.; Randfontein, 6d.; Roodepoort Kimberley, 1s.

Indian and Miscellaneous Shares.

The week opened with a very firm tone in this department, Indians especially showing activity. Amongst the latter Ooregum Ordinary and Preferred, Mysores, Champions, Nundydroogs, and Gold Fields all improved. Broken Hill Proprietarys, on the news of the declaration of a dividend of 1s. for the month, advanced to 2¾. Day Dawn fell 3d. Mount Morgan were steady. Aladdin improved $\frac{1}{16}$, but Tolima (A) relapsed $\frac{1}{4}$, and Don Pedro $\frac{1}{32}$. The active tone continued during the following day, a further sharp recovery occurring in several of the Indian descriptions. The other miscellaneous securities were, on the whole, unchanged. Amongst copper shares, Rio Tinto relapsed $\frac{1}{32}$. On the following day Indians were especially strong, the chief feature being a sharp rise in Mysore Gold Fields, which recovered from 21s. 9d. to 25s. 6d. Mysore advanced $\frac{1}{32}$, while smaller recoveries took place in Nine Reefs and South-East Mysore. On the other hand, Champion Reef relapsed $\frac{1}{32}$. Amongst the other miscellaneous securities a decline of $\frac{1}{32}$ took place in Broken Hill Props., and of 6d. in John Del Rey, but Mosman and De Lamar were firm. Rio Tinto were again flat. This market has continued active until the close of the week. The bidding for shares has been very persistent, and advances are general and of importance. This applies to Indians more especially, although the other securities remain firm. Risen: Aladdin's Lamp, 3s. 6d. (allowing for dividend); Brilliant, 1s.; ditto Block, 2s. 6d.; Champion Reef, 3s. 9d.; Coromandel, 6d.; De Lamar, 6d. (allowing for dividend); Golden Feather, 1s.; Golden Gate (Cal.), 2s.; Gold Fields of Mysore, 5s.; Gravel Gold, 6d.; Mysore Reef, 2s.; Nine Reefs, 8s. 6d., paid 9d.: ditto (fully paid), 6d.; Nundydroog, 1s. 3d.; Ooregum, 6s. 3d.; ditto Preference, 5s. 1d.; Poorman, 6d.; Rio Tinto, 1s. 3d.; South-East Mysore, 1s. 3d.; Tharsis, 2s. 6d.; Wentworth Priority, 1s. 3d.; ditto Ordinary, 6d. Fallen: Burma Ruby, 6d.; Carrington, 6d.; Don Pedro, 1s.; Harquahala, 1s.; Kangarilla, 6d.; Mysore West, 1s.; New Guston, 2s.; St. John del Rey, 1s.; Tolima A, 10s.; ditto B, 5s.

THE STOCK MARKETS.

Business quiet and the tone weak.

Except in one or two departments business has been quiet on the Stock Exchange to-day, and the tone is generally rather weak. Consols have not moved, but the New Two-and-a-Halfs are the turn of the market lower, while Rupee paper has been as low as 60, on the weakness of silver. Home railways continue drooping, and the movements are nearly all downwards. The Midland dividend announcement caused a drop of ½, as it is scarcely so good as was hoped. In the foreign department there are no changes of importance, and the market has been stagnant and heavy. American railroads display more strength, although the tendency is rather weak on the continued fall in Union Pacifics. Grand Trunks and Canadian Pacifics are firmer, in sympathy with Americans.

THE MONEY MARKET.

Reduction in the Standard for Discounts. Rates higher to-day.

At their meeting on Thursday the directors of the Bank of England decided to lower their standard for discounts from 3 to 2½ per cent. Including £246,000 gold received from abroad, the stock of bullion held by the Bank was raised by £641,715, but as the note circulation expanded £163,760, the reserve was augmented by £477,955. The tax payments enabled the Government to repay the Bank £400,000, shown by a decrease in the Government securities, while at the same time their deposits were increased by £490,472. We append our usual table:—

ISSUE DEPARTMENT.

Notes Issued	£45,284,135	Government Debt	£11,015,100
		Other Securities	5,434,900
		Gold Coin and Bullion	25,814,135
		Silver Bullion	—
	£45,284,135		£45,284,135

BANKING DEPARTMENT.

Proprietors' Capital	£14,553,000	Government Securities	£3,960,317
Rest	3,453,858	Other Securities	25,254,067
Public Deposits	6,303,818	Notes	17,526,915
Other Deposits	29,458,831	Gold and Silver Coin	2,212,511
Seven Day and other Bills	184,746		
	£53,954,253		£53,954,253

The return shows the following changes when compared with the previous statement:—Circulation Issue (increase), £564,178; Circulation Active (increase), £163,760; public deposits (increase), £490,472; other deposits (increase), £62,222; Government securities (decrease), £400,000; other securities (increase), £460,198; coin and bullion (increase), £641,715; seven days' and other bills (decrease), £4724; rest (decrease), £9,917; notes in reserve (increase), £400,415; total reserve (increase), £477,955.

To-day money has been in fairly good demand and rates are again a little higher.

STOCK EXCHANGE SETTLING DAYS.

CONTANGO.	TICKET.	SETTLEMENT.
Monday, Feb. 12.	Tuesday, Feb. 13.	Wednesday, Feb. 14.
Monday, Feb. 26.	Tuesday, Feb. 27.	Wednesday, Feb. 28.

Consols, Thursday, February 1.

OUR LATE COLUMN:

SPECIAL TELEGRAMS AND LATEST NEWS

Up to the time of going to Press.

LATEST MARKET REPORTS.

(SPECIAL TELEGRAMS FROM OUR OWN CORRESPONDENTS.)

MANCHESTER, Friday.

FOLLOWING upon fairly large weight of buying during the week in pig iron, with substantial advance in prices, rather quiet market to-day, but makers firm at full rates which generally show advance of quite 1s. per ton. Hematites firmer, but not much enquiry. Finished iron makers busier, but except in hoops, no quoted advance. Coal quieter with easier tendency, but list rates unchanged. Small stocks accumulating and outside competition becoming keener.

BARNSLEY, Friday.

Many district collieries have only worked four and five days during the week. Business is quieter, prices of almost all kinds of coal are weaker. Inconvenience is still caused owing to scarcity of wagons, several collieries having to lock in during working hours. Tonnage to London is less, and business with eastern counties more restricted. Silkstones, 12s. 6d. to 13s. 6d.; Barnsley softs and Flockton, 10s. to 11s. 6d. per ton. Steam coal in fair request at late rates. Great Northern Railway Company and other large consumers are purchasing in open market with satisfactory results.

CARDIFF, Friday.

The stormy weather which has prevailed throughout the week has interfered with the movement of tonnage, but despite this drawback shipments have been above the average. The demand for best steam coal continues satisfactory, but the market for Monmouthshire and dry coal is much easier. House sorts are in moderate request, and as the winter season is practically over, buyers can now look forward for more favourable terms than they could a week ago. Current prices are:—Best steam coal 14s., Monmouthshire 12s. 3d. to 12s. 6d., dry coal 11s. 6d. to 11s. 9d., small 6s. 6d. to 7s., best house coal 15s., No. 3 large 13s. 6d., No. 2 large 11s. 6d., patent fuel 12s. 6d. to 13s., foundry coke 19s. to 20s., furnace coke 17s. 6d. to 18s., and pitwood 15s. per ton. The iron ore market remains firm at the following prices:—Rubio 11s. 9d. to 12s., Tafna 12s. and Garrucha 10s. 9d. to 11s. per ton. The prices of manufactured iron and steel are unaltered.

CORNISH SHARE MARKETS.

REDRUTH, Friday.

This evening's closing prices are as follows:—Carn Brea, 13½; Cook's Kitchen, 3s. 6d.; Dolcoath, 70½; East Pool, 11½; Killifreth, 3½; South Crofty, 2; Tincroft, 11½; West Kitty, 7½; West Frances, 1½; Wheal Agar, 2½; Wheal Basset, 3½; and Wheal Grenville, 14½.

LATEST FROM THE MINES.

CABLEGRAMS AND TELEGRAMS.

ALASKA TREADWELL.—A Cablegram from Alaska announces the January clean up as follows:—"Shipment of bullion, $56,779; tons of ore milled, 19,920; tons of sulphurets treated, 361: of bullion there came from sulphurets, 8086; estimated gross expenses for period have been 25,268. The manager reports that work is much retarded by unusually bad weather. He also cables that a robbery from the chlorination works has resulted in a loss of $7500. Steps are being taken to arrest the delinquents. The net profits available for dividends for the first eight months of the present financial year are, therefore, about $361,000."

Broken Hill Proprietary.—For the week ending the 25th instant 870½ tons of ore were treated, yielding 828 tons of lead, containing 247,282 ounces silver. The price of the shares in Melbourne is £2 12s. 6d. buyers. Half yearly meeting passed off satisfactorily. Messrs. Kelly and Darling re-elected directors.

Buffelsdoorn Estate and Gold.—The following cablegram has been received from the head office of the company in South Africa:—"The board authorise you to contradict the report that the Buffelsdoorn Estate and Gold Mining Company (Limited) is increasing its capital."

Burma Ruby.—The result of the mining for the six weeks ending January 31st was 2395 loads washed, producing rubies valued at 9500 Rs., or an average of 5s. per load.

Champ d'Or.—The following extract is from the consulting engineer's report of work done on this company's property for the month of December:—"The drive to the east is still in fault, 35 feet having been driven. The drive to the west has been further extended 47 feet. The reef averages 12 inches, and pans fairly well. A cross cut 80 feet from the shaft has been made to the leader which was 2½ inches wide assaying 15 ounces 2 dwts.

City and Suburban.—Last month's crushing yielded 4259 ounces.

Elkhorn.—"Bullion produced in the mill for the week ending January 27, 8500 ounces."

Golden Gate.—The following has been received by cable from Colonel Frank McLaughlin, the company's general manager at Oroville:—"Mine looks very favourable; it has greatly improved. Going ahead with tunnel. Everything is going well."

Gravel Gold.—The directors have received the following cablegram of the result of run No. 7:—"We have cleaned up head of sluice only after washing 950 hours. The gross returns are £900. We have recommenced running on the Rica bank."

Guadalcazar Quicksilver.—The quantity of quicksilver drawn off for the week ending the 25th instant, as cabled from the mines, amounts to 3700 lbs.=49½ flasks.

Harquahala.—"Shaft has reached a depth of 225 feet."

Jay Hawk and Lone Pine.—The directors have received the following telegram from the manager, viz.:—"Owing to the bursting of a steam pipe in the boiler, mill has been stopped two days; now started again, and everything going right. Estimated return for last week 7000 ounces. The lode in the 1400 south drift is opening out well."

Johannesburg City and Suburban.—Receipts for month of January amounted to £2628, being an increase of £520 2s. 3d. compared with the corresponding period of 1893.

Lisbon Berlyn.—The following cable message from the manager at the fields has been received:—"Erection of cyanide plant making rapid progress; steel pipes to conduct water to work new mill fixed."

Mosman Gold.—The directors have received the following cablegram from Charters Towers:—"Have crushed during three weeks 525 tons of quartz from Wyndham shaft for 550 ounces of gold." The expenses (of both Wyndham and North Australian Mines) for the month amount to £1870. I estimate value of quartz at grass (upon which mining expenses have been paid) at £1500. The value of the above return is £1900.

Mount Leyshon.—The Mount Leyshon (Limited) have received the following cablegram, dated 27th instant, from their manager at Charters Towers, giving the fortnightly crushing ending January 20:—"1200 tons crushed; 209 ounces gold; 30 stamps mill ran 288 hours; profit, £50; dam full."

Mount Morgan Gold.—The following telegram has been received from the head office, Rockhampton:—"We pay £25,000 on 2nd February, being dividend of 6d. per share (free of dividend tax) for the month of January."

Mount Zeehan (Tasmania).—The following telegram has been received from Hobart, dated 30th January:—"Have treated 400 tons of raw ore in 12 working days, yielding about 62 tons of concentrates. Shipped 60 tons of concentrates per steamship *Gera*, containing about 45 tons of lead and 4800 ounces of silver."

Mysore Reefs.—The directors have received the following telegram from Captain Scantlebury:—"Underlie shaft. Width of lode 3 feet 9 inches; average of five assays is 1 ounce 19 dwts. of gold per ton."

New Chimes.—The return for December, 1893, is as follows:—"40 stamps ran 27½ days, crushing 3,850 tons of ore, yielding 1568 ounces of gold, and 42 tons concentrates assaying 4¼ ounces to the ton, 1054 tons tailings yielded 425 ounces of gold.

New Queen.—The directors have received the following cablegram from Charters Towers:—"Shipping bullion amounting to 1081 ounces per ss. *Dorunda*."

Queensland Smelting.—The manager cables:—"Have shipped bullion to the value of £16,500 per ss. *Dorunda*."

Sheba.—The directors have received the following cablegram from the general manager for the month of January:—"4000 tons (2000 lbs. per ton) of ore crushed: yield, 3695 ounces; 6500 tons (2000 lbs. per ton) of tailings; yield, 3780 ounces; 69 tons (2000 lbs. per ton) of concentrates; assay value, 489 ounces; total, 7964 ounces."

(2) South Phœnix.—Mr. Samuel James, of 3, Copthall Chambers, E.C., has received the following cable, dated Gympie, 27th instant:—"2 South Phœnix. Crushed 70 tons, yielding 332 ounces of gold. Dividend 5d. per share. The previous dividend was 1s., paid in August last, so I think a new discovery has been made. It will be observed this crushing averages nearly 5 ounces of gold per ton. If this is from the Shannon reef we may reasonably expect increased profits."

Victoria Gold Mining Association.—The following cablegram, dated 30th instant, has been received at the London office:—"246 tons crushed, yielded 461 ounces gold for fortnight ending 27th January."

Victory (Charters Towers).—The London office has received the following cablegram from the head office in Sydney, dated 25th instant:—"Crushed from No. 1 shaft, 148 tons for 150 ounces; crushed from No. 2 shaft, 415 tons for 456 ounces; total, 563 tons for 606 ounces of gold."

Victory (Charters Towers).—The directors have received the following cablegram from Sydney:—"Issue scrip certificates against list No. 10 sent 22nd December, making total number of shares on London register 75,563. No. 5 east level, reef 5 feet, good quality."

Worcester Exploration and Gold.—The return for December, 1893, is as follows:—"20 stamps ran for 28 days 22 hours, crushing 1429 tons of ore from south reef, and 476 tons from main reef, yielding 1558 ounces 2 dwts. of gold, and 236 ounces from concentrates.

Zeehan-Montana.—The following telegram has been received from Hobart, dated 30th inst.:—"Have shipped 60 tons of first class ore per steamship *Gera*."

COMPANIES AND THEIR DOINGS.

Reports, Balance Sheets, Dividends, &c., of Mining, Railway, Banking, and other Companies.

MINING COMPANIES.

Spitzkop Farm Gold Company.

THE following is from a circular issued to the shareholders:—The directors are glad to be able to acquaint you with the fact that the reconstruction has been a success. The number of shares of the old company exchanged for shares in the new company, credited with 19s. as paid up thereon is 99,070. The liquidator reported that he had received applications for 18,371 additional shares; but the directors not considering it advisable to issue any extra shares, the application money was returned to the applicants. The sum of £500, together with all interest due to November 23, 1893, has been paid to the mortgagee, on account of his mortgage, leaving £1500 running. The company was duly registered in this country on October 9, 1893, and the directors hope soon to have advice that the company has been registered in the Transvaal. The company has a substantial balance at its bankers, and all debts have now been paid with the exception of the mortgage and the registration fees of the company in the Transvaal, as, according to the last accounts received from the manager, there is practically no liability existing at the mine. It is estimated that the mine expenses amount to about £100 a month. According to advices received from the mine, the yield of gold, exclusive of hydraulicing, has been not only sufficient to meet the expenses of the mine up to date, but has actually left a balance. The shipments have been as follows:—Gold returns: 1893: September, 48 ounces 4 dwts. 6 grains; October, 88 ounces; November, 72 ounces 4 dwts. 12 grains.—Hydraulicing: This is now in full force with two nozzles, and has hitherto been the chief source of revenue of the company, and the latest advice is that the wash looks good, but the result of this cannot be given from month to month, as it is necessary to take full advantage of the wet season. The directors believe that the company is in a much more encouraging position than it has ever been before, and they hope that the patience of the shareholders may at last be rewarded, especially should the prospecting now proceeding prove successful.

The Balaghat-Mysore Company.

In a circular issued to the shareholders the directors of the Balaghat-Mysore Gold Mines (Limited) state:—"The low returns from the mines during the past few months, caused by the temporary falling off in the width and value of the lode, and difficulty in keeping the lower portion of the mine free from water, through breakages in the pumping machinery, have rendered it necessary to take some step for supplying the company with further working capital, so that the operations may be proceeded with to the best advantage. After careful consideration the board has come to the decision that the best course is to reconstruct the company." Accordingly, the directors propose that a new company be formed with a capital of £200,000 in shares of £1 each, and a 10 per cent. mortgage debenture issue of £35,000. Of the new shares, 159,945, with 15s. each credited as paid, will be handed over to the liquidator, and shareholders will be entitled to apply for one new share for every old share held. The calls will be payable 1s. on application, 1s. on allotment, and the balance of 3s. in amounts not exceeding 1s. at intervals of not less than two months. Of the remaining shares, 35,000 will be held in reserve, the debenture-holders having the right to exchange their bonds for them at any time, and the remaining 5055 may be dealt with by the directors. The holders of debentures will be asked to accept similar securities issued by the new company, but the time for repayment will be postponed from December 31, 1896, to December 31, 1898.

The Champion Reef Gold Mining Company.

The following circular has been issued to the shareholders:—Referring to the scrip certificates for shares in the above company, issued in June, 1892, by the Gold Fields of Mysore (Limited), the directors find that many holders of such scrip have not yet had the shares represented thereby registered in the books of the company. It is necessary that this should be done, and I am requested to ask you to take steps to have the shares put into your own name or into that of your transferee. The said shares now stand in my name as secretary of the Gold Fields of Mysore (Limited), and I shall be prepared to execute transfers of them forthwith. In case you should wish the shares registered in your own name the consideration would be nominal, and the transfer would require a 10s. stamp. On receiving from you a remittance for that sum, together with the scrip certificate, I will prepare and execute a transfer and forward it to you for completion. In view of the dividend shortly to be declared you should lose no time in having the shares registered in your own name.

Victory (Charters Towers) Gold Mining Company.

The directors report for the half year ended October 31, 1893, submitted to the meeting of shareholders held at Sydney on December 21, states that since the formation (or reconstruction) of the present company, on April 28 last, the tonnage of stone operated on was as follows:—5608 tons from Brilliant reef yielded 17,202 ounces 5 dwts. 18 grains gold, valued at £60,256, and 1260 tons from Victory Reef yielded 1788 ounces 7 dwts. 18 grains gold, valued at £6167; total, 6868 tons, yielding 18,990 ounces 13 dwts. 12 grains of gold, valued at £66,424. The profit and loss account for the half year shows total receipts £75,372 and expenditure £23,521. £50,000 was paid in dividends, and a balance of £1851 carried forward.

Langlaagte Royal Gold Mining Company.

The accounts of the Langlaagte Royal Gold Mining Company show a profit of £9369 for the year ended on November 30, and £7000 of it has been distributed in one dividend of 5 per cent. The 40 light stamps at present at work are being exchanged for heavy ones and when this operation is completed the milling power will be raised to 80 stamps—possibly by April—by the erection of the extra 40 stamps now on the ground. At the beginning of March the 10,000 ton tailings plant will be ready.

Metropolitan Gold Mining Company.

The accounts of the Metropolitan Gold Mining Company for the nine months to June 30 last show a loss of £5496. The accounts for the three months to September 30—the company having been reconstructed in August—show a debit balance of £1233, no operations having been carried on during the period. Messrs. Adolph Goerz and Co. have lent the company £20,000 at 8 per cent., and are prepared to advance £10,000 further; while, as milling has already commenced, it is hoped that the liabilities will soon be extinguished.

— The BROKEN HILL PROPRIETARY COMPANY (LIMITED) has declared a dividend at the rate of 1s. per share, less income tax, payable 14th February, the books for which will be made up on the morning of the 31st instant.

— Shareholders who have not yet claimed their certificates of fully paid shares in the NINE REEFS GOLD MINING COMPANY (LIMITED) are informed that these are ready, and may be obtained in exchange for letters of allotment issued 18th July, 1892.

— We hear that Mr. T. P. Sharman has been appointed superintendent of the Segovia Gold Mines (Limited) which is a reconstruction of the Tesoro Gold Mines, and that he will sail in February for the mine. The stores, pipes, &c., are already ordered and the directors expect the mines to be mounted and at work within the year.

THE METAL MARKETS.

LONDON METAL MARKET.

THE METAL MARKET—LONDON, FEBRUARY 2.

Copper.

THE G.M.B. market opened firm at £42 for three months, for which £41 17s. 6d. and £41 8s. 9d. were subsequently accepted. The market was further flattened by considerable realisations £41 15s. being taken on Tuesday for three months and £41 5s. for spot. A rally to £41 7s. 6d. was followed by a fall to £41 3s. 9d. on Thursday. To-day £41 13s. 9d. and £41 15s. three months were paid and £41 5s. to £41 6s. 3d. spot, the market closing at £41 5s. to £41 7s. 6d. s.c., and £41 15s. to £41 16s. 3d., three months. The American market has been dull from first to last. Here refined copper has tended again towards lower prices, and manufactured suffers from a great lack of orders. Furnace material continues quiet, the transactions taking place being few and unimportant. For Cueva precipitate 8s. 6d. has been paid, for Portuguese precipitate 8s. 3d., for low percentage Portuguese ore 6s. 9d., and for Spanish ore 7s. 3d.

Tin.

The stocks in and afloat to Europe have increased to the extent of about 800 tons during the past month, during which the total drop in price, as shown in our reports, amounts to about £3 per ton. The dulness of the market has persisted throughout the present week in sympathy with the flat and unsettled silver market. We opened on Monday at £71 5s. s.c. and £72 5s. three months. On Tuesday £70 17s. 6d. s.c. and £71 15s. three months were recorded, but a recovery ensued to £72 2s. 6d. s.c. the market firming up for an instant on the report of the Banca sale being made known. Thursday's market was very dull at £70 17s. 6d. to £71 s.c., and to-day, after transactions at £72 and £71 17s. 6d. three months, and £71 2s. 6d. s.c., we close in dull tendency at £71 to £71 2s. 6d. s.c., and £71 17s. 6d. to £72 three months. The Dutch market opened at 4⅜ fl. for spot Billiton, which fluctuated between this figure and 43⅜ fl., falling to-day to 43⅛ fl.

Pig Iron.

Scotch shipments last week were 3272 tons, or 2976 tons less than in the same period of 1893. The Glasgow market opened at 43s. 9d. s.c. Scotch touched 43s. 11½d., and then receded to 43s. 6½., closing at 43s. 6d., with hematite at 45s. 5½d., and Cleveland at 35s. 10d.

Lead

is, if anything, again weaker, and business has taken place at £9 [illegible]. We close dull at £9 5s. soft foreign, and £9 7s. 6d. English.

Spelter

has given way this week to £16. We close at £15 17s. 6d. to £16 ordinaries, and £16 2s. 6d. to £16 5s. specials.

Antimony

is quiet and unchanged at £37.

Quicksilver

continues flat at unchanged values, viz., £5 17s. 6d. firsts and £5 16s seconds.

The following are to-night's (February 2) prices of metals:—

	£	s.	d.		£	s.	d.
Copper.							
Tough cake and ingot	43	10	0	.....	44	5	0
Best selected	44	10	0	.....	45	5	0
Sheets and sheathing				.....	52	10	0
Flat bottoms				.....	55	10	0
Chili bars, Good merchantable, Copper tubes — spot, & 3 months respectively	41	7	6	.....	41	16	3
				.....	0	0	7¾
Alloys.							
BRASS: Wire				.....	0	0	5¾
,, Tubes (solid drawn)				.....	0	0	5¾
,, Sheets				.....	0	0	5¾
PHOSPHOR BRONZE: Alloys II.				.....	88	0	0
,, ,, III. or V. } Cog Wheel Brand				.....	93	0	0
,, ,, VII. } Cog Wheel Brand				.....	95	0	0
,, ,, XI. } Cog Wheel Brand				.....	90	0	0
,, ,, Vulcan brand A1 B.C.	89	0	0	.....	85	0	0
DURO METAL	89	0	0	.....	85	0	0
SULL'S METAL				.....	70	0	0
FERROBRONZE: Ingots ...per lb.	0	0	6	.....			
,, Ordinary sheets, plates, bolts and bars	0	0	7	.....			
,, Screw bolts and nuts	0	0	8½	.....			
,, Pump rods, plain	0	0	7½	.....			
,, ,, finished	0	0	10½	.....			
DELTA METAL: No. 4 (per ton)				.....	73	10	0
,, Sheets and plates (per lb.)	0	0	10½	.....			
,, Bars, round, square, flat (per lb.)	0	0	9½	.....			
,, ,, hexagon (per lb.)	0	0	9	.....			
Tin.							
English, ingots, f.o.b.				.....	75	10	0
,, bars				.....	76	10	0
,, refined				.....	77	10	0
Straits, spot and 3 months respectively	71	2	6	.....	72	0	0
Australian spot, and three months respectively	71	10	0	.....	72	7	6
Banca (in Holland)				.....	74	15	0
TIN PLATES: Charcoal, best quality per box	0	16	0	.....	0	18	0
,, ,, ordinary	0	12	6	.....	0	14	6
,, Coke, best quality	0	11	0	.....	0	12	6
,, ,, ordinary	0	10	3	.....	0	10	6

These prices of tinplates are f.o.b. at Swansea: at Liverpool 6d. per box more.

Iron.							
Pig, G.M.B., f.o.b., Clyde, spot				.....	2	3	6
,, Scotch pig, No. 1 Gartsherrie				.....	2	11	6
,, ,, Coltness				.....	2	16	6
,, ,, Clyde				.....	2	9	6
,, ,, Govan				.....	2	5	6
Bars, Welsh, f.o.b. Wales				.....	5	5	0
Plates ,, ,,				.....	6	5	0
Bars, Staffordshire, at works				.....	5	12	6
Sheets ,, ,,				.....	6	15	0
Plates ,, ,,				.....	6	12	6
Hoops ,, ,,				.....	5	17	6
Ship plates, Middlesborough				.....	4	17	6
STEEL: English spring... nominal } according to quality	9	0	0	.....	20	0	0
,, ,, cast ... } according to quality	16	0	0	.....	55	0	0
,, Rails at works, 53 lbs. per yard and upwards	3	15	0	.....	3	18	9
,, ,, light, at works, according to section (extra)	0	10	0	.....	2	0	0
Lead.							
Spanish or soft foreign				.....	9	5	0
English pig, common				.....	9	7	6
,, L.B.				.....	9	17	6
,, sheet and bar				.....	10	12	6
,, pipe				.....	11	2	6
,, red				.....	13	0	0
,, white				.....	16	10	0
,, patent shot				.....	14	10	0
Spelter							
Silesian ordinary brands	15	17	6	.....	16	0	0
,, special brands	16	2	6	.....	16	5	0
English Swansea	16	12	6	.....	16	15	0
Sheet Zinc	18	15	0	.....	19	0	0
Antimony.							
Antimony				.....	37	0	0
Quicksilver.							
Flasks, 75 lbs. warrants	5	18	0	.....	5	17	6
Manganese.					per unit.		
Ore, c.i.f., U.K. ports							
1st quality, 50 per cent. and upwards	0	0	11½	.....	0	1	0
2nd ,, 47 per cent. to 50 per cent.	0	0	10	.....	0	0	11
3rd ,, 40 ,, 47 per cent.	0	0	8	.....	0	0	10
Aluminium.							Per lb.
98–99½ per cent. (guaranteed 98 per cent. min.) in ingots (1 cwt. lots)							0 2 0
do do [illegible] (5 cwts. and up)							0 1 11

"THE MINING JOURNAL" SHARE LIST.

ABBREVIATIONS AND REFERENCES.—The following are the significations of the abbreviations and references which occur in the Share List:—*Ay*, Antimony; *A*, Arsenic; *Bl*, Blende; *Bx*, Borax; *C*, Copper; *D*, Diamond; *G*, Gold; *I*, Iron *L*, Lead; *M*, Mundic; *N*, Nitrates; *P*, Phosphates; *Q*, Quicksilver *R*, Ruby; *S*, Silver; *S-l*, Silver-lead; *Sul*, Sulphur; *T*, Tin; and *Z*, Zinc. * in the "called up" column of British Mines, signifies that the mine is conducted on "Cost Book" principles: † in the "Head Office" column of African Mines, signifies that the address given is not that of the head office, but of a sub- or transfer office and †, following the names of African mines, signifies that they are subject to the Limited Liability Law of the South African Republic.

*** *The following is by far the most complete and comprehensive list of mines, in whose shares business is being currently transacted, published. Additions will be made from time to time as occasion requires. Every effort is made to ensure accuracy, and Secretaries of Companies, Share dealers, and our readers generally, are cordially invited to co-operate with us to this end, by notifying us of any errors that may at any time occur. We desire it to be understood that, while our Share List will almost invariably be found correct; we do not hold ourselves responsible for any loss or inconvenience that may arise from possible inaccuracies.*

BRITISH MINES.

Name.	Closing Price, Feb. 2, 1894.	Closing Price, Jan. 26, 1894.	Par.	Latest Dividend.	Called up Per Share.	Shares Issued.	Situation of Mine.	Head Office.
			£ s.		£ s. d.			
Atlas .....*T*	—	—	1 0	—	0 12 6	12,000	Devon	Camborne.
Blue Hills .....*CT*	3/- 4/-	3/-	*	2/- May '81	6 11 6	6,000	Cornwall	Camborne.
Botallack .. ..*T*	—	—	*	—	51 4 6	2,220	Cornwall	St. Just.
Carn Brea ....*T*	12¾ 13¼	13¾	*	2/6 Dec., '93	21 5 0	6,000	Cornwall	Carn Brea.
Cook's Kitchen ..*T*	3/6 4/6	3/6	*	—	28 15 4	4,900	Cornwall	Camborne.
Cumberland .....*L*	—	—	1 0	5% May, '88	1 0 0	85,000	Cumberland...	7, Angel-court E.C.
Cwmystwyth	—	—	1 0	—	1 0 0	5,000	Cardigan	
Derwentwatr.*CLZ*	—	—	1 0	—	1 0 0	10,000	Cumberland..	Manchester.
Devon Gt Cons.*CA*	17/6 22/6	1½	5 0	3/- Nov. '93	2 0 0	40,000	Devon	8, Finsbury-circus.
Dolcoath .....*T*	70 71	70½	*	5/- Jan. '94	9 12 6	4,200	Cornwall	Camborne.
Drakewalls *CTM*	—	—	1 0	—	1 0 0	100,000	Cornwall	‡Dashwood House.
East Blue Hills *T*	—	—	*	—	1 15 3	4,283	Cornwall	79¼, Gracechurch-st.
EastGrassington *L*	—	—	1 0	—	1 0 0	20,000	Yorkshire	Palmerston-building
East Pool .....*AT*	11 11½	11½	*	5/- Oct. '93	0 9 9	6,400	Cornwall	Illogan.
Gawton .....*CA*	—	—	50/-	—	2 7 0	12,000	Devon	20, Great St. Helens.
Great Laxey.....*L*	2½ 3½	3½	4 0	5/- Apr., '92	4 0 0	15,000	Isle of Man ...	Douglas, Isle of Man.
Green Hurth ...*L*	—	—	1 0	-/6 June '89	0 19 0	32,000	Cumberland..	Newcastle.
Halkyn .....*L*	—	—	1 0	2/- Sep. '93	1 0 0	10,000	Flintshire....	Chester.
Hexworthy .....*T*	—	—	1 0	—	1 0 0	18,335	Devon	6, Queen-street-place
Isle of Man .....*L*	—	—	5 0	5/6 Sep. '93	5 0 0	14,000	Isle of Man ...	Chester.
Killifreth .....*T*	3¾ 4	3¾	*	3/6 Dec. '93	5 6 3	6,000	Cornwall	Truro.
Kingsido.....*LB*	—	—	1 0	3/- May, 1892	1 0 0	15,919	Cardiganshire	6,Queen-street-place
Lead Hills .....*L*	17/6 22/6	22/6	6 0	3/- Sep. '92	6 0 0	20,000	Lanarkshire ...	30, Finsbury-circus.
Levant .....*CT*	—	—	*	10/- Aug., '93	11 9 6	2,500	Cornwall	Penzance.
Lovell .....*T*	—	—	*	1/3 Nov., '91	1 18 7	7,165	Wendron	3, Gt. Queen-st., S.W.
Minera (New) ...*L*	—	—	5 0	3/- Mar. '90	5 0 0	9,000	Denbighshire.	Minera, N. Wales.
Nenthd'aTndle.*LZ*	—	—	1 0	6% Feb., '91	0 18 6	48,875	Northumberld.	Newcastle-on-Tyne
New Balleswidd'n *T*	—	—	1 0	—	1 0 0	50,000	Cornwall	St.Clement's Ho.,E.C
NewCooksKitn.*TC*	—	—	*	—	10 18 3	4,900	Cornwall	Camborne.
Pedn-an-dres ...*T*	—	—	*	—	4 3 6	7,000	Cornwall	Redruth.
Phœnix United*TC*	6/- 7/-	7/-	*	1/- Mar. '90	6 9 9	12,000	Cornwall	Liskeard.
Polberro & Trev. *T*	—	—	*	—	1 11 6	18,000	Cornwall	37, Walbrook.
Prince of Wales*TC*	2/- 3/-	3/-	10/-	—	—	—	Cornwall	6, Draper's-gardens
Roman Gravels *L*	—	—	10/-	—	—	—	Salop	11,Queen Vic -st.,EC
Rushen .....*L*	—	—	1 0	5% Sept. '91	1 0 0	26,131	Isle of Man ...	Douglas.
So. Condurrow *TC*	5/- 10/-	10/-	*	3/6 Apr. '93	7 12 1	6,123	Cornwall	20, Great St. Helens
South Crofty *TA*	1⅞ 2⅛	2¼	*	—	16 16 6	6,120	Cornwall	Pool, Cornwall.
South Darren ... *L*	—	—	—	—	—	—	Cardiganshire	6A, Austin Friars.
South Frances ...*T*	—	—	*	—	18 1 0	4,500	Cornwall	Redruth.
Tincroft .....*T*	11¾ 11¾	11¾	*	3/- Dec. '93	15 7 6	6,000	Cornwall	Carn Brea.
Weardale .....*L*	—	—	4 0	1/3 Oct. '90	1 5 0	50,000	Durham.....	3, Lombard-court.
West Frances ...*T*	20/- 25/-	1⅛	—	2/6 May, '89	15 15 1	6,144	Cornwall	Camborne.
West Kitty .....*T*	7¼ 8	8	*	4/- Jan. '94	0 12 0	6,000	Cornwall	37, Walbrook.
Wheal Agar ..*TA*	2½ 3	3¼	*	2/6 Aug. '88	22 0 8	6,000	Cornwall	Redruth.
Wheal Basset ...*TC*	3½ 4	2¾	*	10/- Apr.'88	12 0 10	6,144	Cornwall	Redruth.
Wheal Friendly..*T*	2/- 4/-	4/-	*	—	0 11 3	10 000	Cornwall	37, Walbrook, E.C.
Wheal Grenville *T*	14 15	14	*	5/- Oct. '93	17 10 0	6,000	Cornwall	7, Union-court, E.C.
Wheal Kitty.....*T*	10/- 15/-	15/-	*	3/- Mar. '88	7 9 6	4,295	Cornwall	Truro.
Wheal Metal &F.*T*	—	—	*	—	0 13 9	10,784	Cornwall	79¼, Gracechurch-st

AUSTRALIAN AND NEW ZEALAND MINES.

Achilles Gld Fld	—	—	1 0	—	1 0 0	80,307	New Zealand	3, Church Pas ,E.C.
Aladdins Lamp *G*	1⅞ 2	1⅞	1 0	1/- Feb.'54	1 0 0	100,000	N S Wales ...	4-6, Throg. Avenue.
Anglo-Saxon ...*G*	—	—	1 0	2/- July, '89	1 0 0	51,000	Queensland ...	4, Lombard-court.
Australasian .....*G*	1/9 2/3	2/-	1 0	-/3 Mar., '92	1 0 0	210,000	Queensland ...	6, Queen-st. place
Australian .....*C*	—	—	20 0	1/6 Aug. '93	7 7 6	18,315	So. Australia	18, Old Jewry Chbrs
Aus. Bro. Hill Con.	1/9 2/3	2/3	1 0	1/- June, '91	1 0 0	540,000	N. S. Wales ...	Winchester House.
Blue Spur & G. G.	—	—	1 0	—	1 0 0	75,926	New Zealand	6, Gt. St. Helens'
Bonnie Dundee *G*	2/6 3/-	3/-	1 0	—	0 17 6	120,000	Queensland ..	3-5, Gracechurch-st
Brilliant Block...*G*	13/16 13/16xd	13/16	2 0	—	2 0 0	250,000	Queensland ...	2, Gracechurch-st.
Brit. Brok. Hill *S*	3/- 4/-	4/-	5 0	—	5 0 0	240,000	N. S. Wales ...	Abchurch Chambers.
Broken Hill Prop.	211/16 213/16	213/16	8 0	1/6 Dec. '93	0 8 0	960,000	N. S. Wales ...	Abchurch Chambers.
Carrington.....*G*	—	—	12/6	—	0 12 6	100,000	Queensland ...	9, Tokenhouse Yard.
Coromandel .....*G*	—	—	1 0	—	0 5 0	95,000	India	6-7, Queen-street-pl.
Craven's Cal.	3/6 4/6	5/-	6 0	-/3 Nov. '93	0 4 8	100,000	Queensland ..	Leadenhall Bldgs.
Croydon King Blk.	—	—	5/-	—	0 5 0	60,000	N. Queensland	Leadenhall Big. E.C.
Cumbrind (New)*G*	1/- 2/-	2/-	1 0	2/6 Dec. '87	0 19 0	200,000	Queensland ...	Blomfield House.
DayDawn B.&W.*G*	4/3 4/9	5/-	1 0	-/6 Mar. '93	1 0 0	498,400	Queensland ...	3-5, Gracechurch-st.
Day Dawn P. C. *G*	5/3 5/9	6/-	1 0	-/6 Apr. '92	1 0 0	490,000	Queensland ...	Winchester Ho.,E.C.
Eaglehawk.....*G*	1/- 1/6	1/6	1 0	—	0 18 3	120,000	Victoria.....	31, Lombard-street.
Etheridge .....*G*	—	—	5 0	—	0 5 0	324,790	Queensland ...	6-7, Queen-street-pl.
Golden Gate.....*G*	—	—	10/-	—	0 10 0	150,000	Queensland..	9, Tokenhouse Yard
Glenrock .....*G*	2/- 2/6	—	1 0	—	0 19 6	225,000	N. Zealand ..	3-5, Queen-st, E.C.
Harrietville .....*G*	—	—	1 0	-/6 July, '90	1 0 0	146,330	Victoria.....	6-7, Queen-street-pl.
Kaboonga .....*G*	-/9 1/-	1/-	10/-	—	0 10 0	500,000	Queensland ...	30, St. Swithin's-la.
Kangarilla .....*S*	-/9 1/3	1/3	1 0	—	0 18 6	88,275	So. Australia	68, Coleman-street.
Kapanga.....*G*	-/6 -/9	-/9	1 0	-/6 Jan. '51	0 18 9	250,000	N. Zealand ...	9, New Broad-street
Kilkivan .....*G*	—	—	1 0	—	1 0 0	120,000	Queensland ...	4, Coleman-street.
Midas G. F. .... *G*	—	—	1 0	—	1 0 0	180,000	Victoria.....	32 Poultry, E.C.
Mills' Day Dawn*G*	1 1⅛	1¼	1 0	-/3 Sep, '93	0 15 9	300,000	Queensland ..	3, Gracechurch-st.
Moruya .....*GS*	—	—	1 0	—	1 0 0	58,235	N. S. Wales ...	16, St. Helen's-place.
Mosman .....*G*	4/- 5/-	4/6	1 0	-/3 Jan. '94	1 0 0	185,000	Queensland ...	3-5, Gracechurch-st.
Mt. Leyshon .....*G*	1/- 1/6	1/6	1 0	-/6 Dec. '90	1 0 0	157,989	Queensland ...	7, Draper's-gardens.
Mountain Maid *G*	1/6 2/6	2/6	10/-	—	0 6 3	56,000	Queensland ...	Leadenhall Bldgs.
Mt. Morgan Ex. *G*	1⅛/16 2¼/16	2⅛ xd	5/-	—	0 2 0	180,000	Queensland ...	4, Tokenhouse Bldgs
Mt. Shamrock *GB*	—	—	1 0	—	1 0 0	275,000	Queensland ...	13, Basinghall-st E.C
Mount Zeehan.....	-/6 1/-	—	1 0	—	1 0 0	193,257	Tasmania	Mansion Ho. Cham.
New Queen .....*G*	8/6 9/-	9/-	1 0	-/6 Oct. '93	0 19 6	158,915	Queensland ...	30, St. Swithin's-la.
Port Phillip .....*G*	—	—	5 0	—	0 5 0	200,000	Victoria	57, Moorgate-st.,E.C.
Queen's Bthdy Un	—	—	1 0	—	0 10 0	—	Victoria	7-8, Gt. Winchester St.
Queens. Smelting	—	—	1 0	—	1 0 0	35,244	Queensland ..	9, Tokenhouse Yard.
ScottishAustralian	—	—	1 0	—	1 0 0	200,00	N.S. Wales ...	Winchester Ho. E.C.
Sunburst	—	—	10/-	-/6 Mar. '92	0 10 0	150,000	Queensland ...	9, Tokenhouse Yard.
Tasmanian Crown	—	—	1 0	—	1 0 0	175,000	Tasmania	8, Old Jewry, E.C.
Tipperary	—	—	1 0	—	1 0 0	35,000	N. Zealand ...	3-5, Queen-st., E.C.
True Blue	—	—	1 0	—	1 0 0	53,000	Australia	Leadenhall Big. E.C.
Victoria.....	—	—	1 0	-/6 Dec, '93	1 0 0	144,000	Char. Towers	32, Gresham-st., E.C.
Victory..... *G*	—	—	5 0	—	0 5 0	200,000	Queensland ...	32, Gresham-st , E.C
Walhi..... *G*	1 1⅛	1⅛ xd	1 0	1/- Jan. '94	1 0 0	150,000	New Zealand	11, Abchurch-ln. E.C
Wentworth Ord.*G*	4/- 5/-	4/6	1 0	6/- Jan. '93	1 0 0	500,000	N. S. Wales ...	4-6, Throgmort. Ave

INDIAN AND ASIATIC MINES.

Balaghat Mysore*G*	5/6 6/-	6/6	1 0	—	1 0 0	160,000	India	6-7, Queen-street-pl.
Burma Ruby.....*R*	2/- 2/6	3/3	1 0	—	0 17 0	300,000	Burmah	Suffolk House, E.C.
ChampionReef...*G*	29/16 211/16	3⅛	1 0	—	1 0 0	200,000	India	6-7, Queen-street-pl.
Colar Central ...*G*	-/6 -/9	-/9	1 0	—	1 0 0	200,000	India	Dashwood Ho., E.C.
Coromandel..... *G*	—	—	1 0	—	0 17 6	120,000	India	6-7, Queen-st.-place.
Devâla Moyar ...*G*	—	—	1 0	—	1 0 0	200,000	India	34, Nicholas-lane.
Gemming&Mining	—	—	2 0	—	1 7 6	24,456	Ceylon	183, Gresham House.
GoldFldsMysore*G*	20/- 20/6	20/6	1 0	1/- July' 92	1 0 0	220,000	India	6-7, Queen-street pl.
Gold Flds Siam *G*	—	—	1 0	—	1 0 0	150,000	Siam	19, St. Swithin's-lane.
Hyderabad Deccan ..	—	—	10 0	—	10 0 0	1,000,000	Deccan	16, St. Helen's-place.
Kempinkote GdFd	1/- 1/6	—	5 0	—	0 3 0	698,650	India	6-7, Queen-st.-place.
Mysore .....*G*	3 3¼	3¼	1 0	3/6 Oct, '93	1 0 0	225,000	India	6-7, Queen-street pl.
Mysore Reefs ...*G*	9/6 10/6	8/6	1 0	—	0 19 6	200,000	India	6-7, Queen-street-pl.
Mysore West ...*G*	4/6 5/6	6/-	1 0	—	0 19 6	130,000	India	Dashwood Ho., E.C.
Mysore Wynaad *G*	2/- 2/6	2/9	1 0	—	1 0 0	250,000	India	Dashwood Ho., E.C.
Nine Reefs .....*G*	1/6 2/-	1/3	10/-	—	0 10 0	250,000	India	6-7, Queen-street-pl.
Nundydroog.....*G*	113/16 113/16	1¾	1 0	1/6 Aug. '93	1 0 0	200,000	India	6-7, Queen-street-pl.
Ooregum(Dl.O.)*C*	413/16 413/16	4½	1 0	3/6 Dec. '93	1 0 0	145,000	India	6-7, Queen-street-pl.
Do. (10% Pref.).	5½ 5¾	5¾	1 0	3/6 Dec. 93	1 0 0	120,000	India	6-7, Queen-street-pl.
Pahang Corpn. ...	3/- 5/-	5/-	1 0	15% Apr. '29	1 0 0	200,000	Malay Penin.	Blomfield Ho., E.C.
Pahang Kebang....	—	—	1 0	—	1 0 0	394,780	Malay Penin.	4a, Jeffrey's sq., E.C.
South P. Mysore*G*	5/6 6/-	4/9	4/-	—	0 3 9	133,074	India	6-7, Queen-street-pl.
Springdale.....	—	—	4/-	16¾% Dec. '93	0 4 0	200,000	India	20, Abchurch-ln. E.C

EUROPEAN MINES.

Alamillos .....*L*	10/- 15/-	15/-	2 0	1/6 Mar. '92	2 0 0	35,000	Spain	5, Queen-street-place
Argentella .....*C*	—	—	1 0	—	1 0 0	133,165	Corsica	16, Philpot-lane.
Bratsberg .....*C*	⅛	⅛	1 0	—	0 18 0	120,000	Norway	1, Gresham-buildings
English Cr. Spelter	⅝ ⅞	⅞	1 0	5% Dec.'92	1 0 0	84,000	Lombardy	9, Queen-street-place
Fortuna ... . *L*	¾ ⅞	⅞	2 0	1/3 Mar. '92	2 0 0	25,000	Spain	6, Queen-street-place
Libiola.....*C*	31/16 31/16	31/16	5 0	2/6Sept. '93	5 0 0	50,400	Italy	Dashwood Ho., E.C.
Linares .....*L*	3⅛ 3⅜	2⅞	3 0	5/- Sep. '93	3 0 0	15,000	Spain	6, Queen-street-place
Marbella .....*I*	69/6 70/6	54/-	10 0	8% Aug. '91	10 0 0	25,000	Spain	78, Queen Victoria-st
Mason & Barry....*C*	2⅛ 2¼	47/6	5 0	2/- May. '93	5 0 0	185,172	Portugal	37, Cannon-street.
Oscar .....*G*	—	—	5 0	—	0 4 6	117,240	Norway	6A, Austin Friars.
Pestarena .....*G*	1/6 2/-	2/-	2 0	—	3 0 0	67,899	Italy	6-7, Queen-street-pl.
Pontgibaud.....*L*	10 12	12	20 0	12½% Dec.'92	20 0 0	14,000	France	6-7, Queen-street-pl.
Rio Tinto .....*C*	143/16 145/16	141¾	10 0	7/- Nov.,'93	10 0 0	225,000	Spain	30, St. Swithin's-lane
Do. (Mort. Bonds)	102 103	103	100 0	5% Jan. '91	100 0 0	2,158,960	Spain	30, St. Swithin's-lane
Do. (2nd de.)	101 102	101½	100 0	5% Jan. '91	100 0 0	1,127,180	Spain	30, St. Swithin's-lane
Sipanji .....*SO*	5/- 7/-	7/-	1 0	—	0 19 0	85,000	Servia	Liverpool.
Tharsis.....*C Sul*	4¾ 5	5	2 0	15% Apr. '93	2 0 0	625,000	Spain	Glasgow.
West Prussian Pre.	10 10¾	10¼	10 0	8% Jan. '93	10 0 0	5,650	Germany	Walbrook Ho., E.C.
West Prussian Ord.	16 19	18	18 0	8% Jan. '93	20 0 0	11,300	Germany	Walbrook Ho., E.C.

NORTH AMERICAN MINES.

Name.	Closing Price, Feb. 2, 1894	Closing Price, Jan. 26, 1894.	Par.	Latest Dividend.	Called up per Share.	Shares Issued.	Situation of Mine.	Head Office.
			£ s.		£ s. d.			
Almada and T... *S*	-/3 -/9	-/9	2/6	—	0 2 6	351,008	Mexico	6, Queen-street-place
American Belle...*S*	1/3 1/9	2/3	1 0	-/6 Mar. '91	1 0 0	400,000	Colorado	25A, Old Broad-street.
Big Creek	—	—	1 0	1/- Dec. '91	1 0 0	80,098	Nevada	2, Pancras-lane, E.C.
California	—	—	10/-	-/6 May '90	0 8 9	129,571	Colorado	St. George's Ho E.C.
Canadian Phos. *P*	¾ ⅝	¾	1 0	-/6 Nov.'90	1 0 0	73,334	Canada	155, Fenchurch-st.
Chiapas	—	—	1 0	—	1 0 0	221,876	Mexico	33, Broad-st. Av. E.C.
Colorado Silver...*S*	⅛	⅛	1 0	—	1 0 0	112,491	Colorado	Abchurch-chbrs. E.C
Cortez	—	—	1 0	3 % Feb. '93	1 0 0	300,000	Nevada	Suffolk House, E.C.
De Lamar.....*GS*	22/6 23/6xd	24/-	1 0	1/- Jan. '94	0 19 9	470,000	Idaho	6, Draper's-gardens.
Dickens Custer*GS*	-/2 -/4	-/4	1 0	—	0 19 9	420,000	Idaho	Winchester Ho. E.C.
Elkhorn .....*S*	9/6 10/6	10/6	1 0	1/- Dec, '93	1 0 0	175,007	Montana	6, Draper's-gardens.
Emma .....*S*	-/3 -/9	-/9	5 0	—	0 5 0	367,788	Utah	15, Geo-st, Mansn. Ho
Flagstaff .....*S*	-/3 -/6	-/6	1 0	—	1 0 0	240,000	Utah	Dashwood Ho., E.C.
Garfield .. ..*GS*	—	—	1 0	-/6 Dec. '88	0 19 6	98,185	Nevada	Suffolk House, E.C.
Golden Feather *G*	—	—	1 0	—	1 0 0	180,000	California ...	St. Stephens Ct E.C.
Golden Gate.....	—	—	1 0	—	0 18 0	79,600	California ...	St. Stephens Ct E.C.
Golden Leaf..... *G*	-/9 1/3	1/3	1 0	—	1 0 0	300,259	Montana	8, Draper's Gardens.
Golden Valley...*G*	2/6 4/-	4/-	1 0	—	1 0 0	55,507	Colorado	15, Angel Court.
Harquahala.... .. *G*	18/6 19/6	18/-	1 0	—	1 0 0	300,000	Arizona	6, Draper's Gardens.
Holcomb Valley *G*	-/6 -/9	-/9	5 0	—	0 5 0	540,000	California ...	14, Cornhill, E.C.
Idaho..... .....*GS*	-/4½ -/7½	-/7	1 0	—	1 0 0	224,987	Idaho	140, Leadenhall-st.
Jackson Goldfields	—	—	5 0	—	0 5 0	408,635	California	6, Drapers' Gardens.
Jay Hawk .....*G*	7/6 8/6	8/-	1 0	-/6 Dec. '92	1 0 0	285,000	Montana	Dashwood House.
Kohinoor "B"*GS*	—	—	1 0	-/6 June.'81	1 0 0	112,901	Colorado	Bloomfield Ho., E.C.
La Plata.....*S*	-/3 -/6	7⅛	5/-	1/3 Oct. '82	0 4 3	405,000	Colorado	11, Poultry, E.C.
Maid of Erin	—	—	1 0	—	1 0 0	575,000	Colorado	43, Threadneedle-st.
Mammoth Gold ...	—	—	1 0	—	1 0 0	400,000	Pinal Arizona.	257, Winchester Ho.
Mesq. d'l Oro (P) *G*	1 1⅛	1⅛	5 0	—	5 0 0	10,000	Mexico	Dashwood Ho., E.C.
Mesq. d'l Oro (D) *G*	⅞ ⅞	⅞	5 0	—	5 0 0	10,000	Mexico	Dashwood Ho., E.C.
Montana	6/9 7/3	8/-	1 0	5% April '91	0 19 0	660,000	Montana	Gresham House,E.C.
New Colorado	—	—	1 0	—	0 17 0	65,000	Colorado	Abchurch Cham. E.C
N.Consolidated*SC*	—	—	1 0	—	1 0 0	160,000	Eberhardt,U.S	19a, Coleman-stree.
N. Eberhardt.....*S*	⅛	⅛	5/-	—	0 3 6	248,576	Nevada	15, Angel-court, E.C
N. Gold Hill.....*G*	—	—	1 0	—	0 19 9	191,045	N. Carolina ...	15, George-st., E.C.
New Guston .....*S*	5/16 7/16	10/-	1 0	1/- Oct. '92	1 0 0	110,000	Colorado	25A, Old Broad-st.
New London	—	—	2/6	—	0 2 6	327,816	New Carolina	55, Bishopsgt.-st.Wn
N. Hoover Hill...*G*	—	—	10/-	-/9 Dec. '85	0 10 0	120,000	N. Carolina ...	Langthorne Ho.,E.C
Palmarejo .....*GS*	1/3 1/9	1/9	1 0	—	1 0 0	418,888	Mexico	4, Copthall-buildings
Pinos Altos.....*GS*	—	—	1 0	-/6 Mar.' 90	1 0 0	300,000	Mexico	110, Cannon-street.
Pittsburg Con. *G*	—	—	1 0	1/6 Mar. '88	1 0 0	77,147	Nevada	Suffolk House,E.C
Poorman Con.....	—	—	5/-	—	0 5 0	273,948	Idaho	5, Copthall-bdgs. E.C
Red Mountain ...*S*	—	—	1 0	—	1 0 0	46,868	Colorado	11, Poultry, E.C.
Richmond ...*GSL*	⅜ ⅝	⅝	5 0	1/- Sep. '93	5 0 0	54,000	Nevada	44, Coleman-street.
Ruby ... .*GSL*	—	—	5/-	—	0 5 0	221,371	Nevada	22 St. Mary Axe.
Sierra Butte ...*G*	8/- 10/-	10/-	2 0	-/6 Oct, '93	2 0 0	122,500	California	138, Leadenhall-st.
Do. Plumas Eur. *G*	11/3 13/9	13/9	2 0	-/9 Oct. '93	2 0 0	140,265	California	138, Leadenhall-st.
Springdale.....*G*	2/8 3/6	3/8	$1	—	$1	1,000 000	Colorado	20, Abchurch Lane.
United Mexican *S*	1/- 1/6	1/6	1 0	2/6 May, '87	1 0 0	906 654	Mexico	3, Gt. Winchester st.
Viola (New).....	—	—	1 0	—	1 0 0	150,000	Idaho	Broad-st.House, E.C.

SOUTH AND CENTRAL AMERICAN MINES.

Antio. (Pref.) *G.S.*	—	—	1 0	-/6 Mar. '90	1 0 0	22,458	Colombia	184, Gresham House
Antioquia(ordiny)	—	—	1 0	—	1 0 0	42,453	Colombia	184, Gresham House
Callao Bis... .....*G*	-/9 1/3	-/9	1 0	—	1 0 0	320,000	Venezuela ...	80, Old Broad-street.
Camacones..... *C*	⅛	⅛	2 0	—	2 0 0	67,000	Chili	123, Bishopsgt. Wn
Caratal..... *G*	—	—	2 6	—	0 2 4	657,326	Venezuela ...	57, Moorgate-st. E.C
Colon .....*G*	-/6 1/-	1/-	1 0	—	1 0 0	200,000	Colombia	5,Copthall-bdgs.,E.C.
Colorado Nit. ...*N*	2 2¼	2½	5 0	7/6 May, '89	5 0 0	32,000	Chili	12, King-st., Liverpl.
Colombian Hy. .*G*	14/- 15/-	15/-	1 0	1/- Dec. '93	1 0 0	75,000	Colombia	16, Blomfield-street.
Copiapo .....*C*	113/16 113/16	37/6	2 0	2/- Dec. '93	2 0 0	100,000	Chili	Dashwood House,E.C
Darien.....*G*	—	—	1 0	—	1 0 0	71,359	Colombia	Manchester.
Don Pedro.....*G*	¼ ⅜	9/16	1 0	—	1 0 0	133,102	Brazil	24-5, Devonsh.Cs E.C
El Callao .....*G*	13/16 15/16	20/-	5 0	2 frc. Nov.'90	5 0 0	257,600	Venezuela ...	8, Bishopsgt.-st, Wn.
Frontino & B....*G*	18/6 19/6	20/-	1 0	1/6 Dec. '93	0 19 6	128,662	Colombia	184, Gresham House.
Glenrock .....*G*	2/- 2/6	2/6	1 0	—	1 0 0	199,948	Argen. (& Ind)	3-5, Queen-street, E.C
Glenrock (Pref.)...	—	—	1 0	—	0 16 0	16,232	Argen. (& Ind)	3-5, Queen-street, E.C
Gravel.....*G*	4/6 5/-	5/-	1 0	—	0 19 0	100,000	Colombia	10, Blomfield-street.
Javali .....*G*	—	—	2/-	12½% June'90	0 2 0	105,234	Nicaragua.....	139, Cannon-street.
Julia Nit. .....*N*	2/- 4/-	4/-	5 0	—	5 0 0	22,000	Chili	79¼, Gracechurch-st.
Lautaro .....*N*	2¾ 3¼	3¼	10 0	10/- Sep. '89	10 0 0	25,000	Chili	70, Gracechurch-st.
Liverpool .....*N*	7⅛ 8⅛	8⅛	5 0	15/- Aug. '89	5 0 0	22,000	Chili	Liverpool.
Loma .....*G*	1/- 1/6	1/6	1 0	—	1 0 0	300,000	Colombia	5, Copthall-buildings
London Nit.....*N*	¾ ⅞	¾	5 0	30% Feb. '89	5 0 0	10,000	Chili	9, Gracechurch-st.
LondonNit.(Pref.)	—	—	5 0	18% Feb.'89	5 0 0	22,000	Chili	9, Gracechurch-st.
Macate	2/- 2/6	—	2/-	—	0 1 0	—	Peru	11, Old Broad-st.E.C
Orita ....*G*	2/ 3

"THE MINING JOURNAL" SHARE LIST (African Mines continued).

Name.	Closing Price, Feb. 2, 1894.	Closing Price, Jan. 26, 1894.	Par.	Latest Dividend.	Called up Per Share.	Shares Issued.	Situation of Mine.	Head Office.
			£ s.		£ s. d.			
Joe's Luck.....G	2/6 3/6	4/6	1 0	—	1 0 0	57,404	De Kaap	11, Queen Vic.-st.
Jubilee .....G	6⅜ 6¼	6⅛	1 0	30% Oct. '93	1 0 0	30,000	Witwatersrdt.	5, Old Jewry.†
Jumpers .....G	3⅛ 3⅛	3⅛	1 0	10% Jan. '93	1 0 0	100,000	Witwatersrdt.	29, Holborn Viaduct.††
Kleinfontein .G	5/6 6/-	6/-	1 0	—	1 0 0	150,000	Witwatersrdt.	8, Old Jewry.
Klerksdorp ....G	— —	—	1 0	—	1 0 0	150 007	Transvaal	110, Cannon-street.
Knight ....G	14/6 15/6	¾	1 0	—	1 0 0	250,000	Witwatersrdt.	19, Bury-street, E.C.
Langlaagte Est. G	3¾ 4	4⅛	3 0	20% July, '92	1 0 0	467,000	Witwatersrdt.	59, Holborn Viaduct.†
Lisbon-Berlyn .. G	2/3 2/9	2/3	2 6	—	0 1 6	889,233	Lydenburg ...	110, Cannon-street.
Luipaards Viei Est.	6/- 7/6	7/3	1 0	6% Mar. '90	1 0 0	344,093	Witwatersrdt.	8, Old Jewry.
Main Reef .....G	4/6 5/6	5/3	1 0	—	1 0 0	300,000	Witwatersrdt.	Warnford-court.†
Manica Ophir	— —	—	1 0	—	1 0 0	96,000	Mozambique..	2, Pinner's Court.
May Consol. .....G	9/6 10/6	10/3	1 0	—	1 0 0	430,000	Witwatersrdt.	4, Lothbury.†
May Deep Level G	— —	—	1 0	—	1 0 0	146,000	Witwatersrdt.	33, Cornhill, E.C.
Metropolitan .. G	13/8 16/3	15⅛	1 0	—	1 0 0	75,500	Witwatersrdt.	1, Crosby Square.†
Meyer & Charl....G	5 5¼	5⅛	1 0	35% July '93	1 0 0	71,687	Witwatersrdt.	Warnford-court.†
Mitchell .....G	— —	—	1 0	—	1 0 0	45,000	Witwatersrdt.	Kimberley.
Modderfontein G	6/- 7/-	6/9	1 0	—	1 0 0	200,000	Witwatersrdt.	Warnford-court.†
Moodies G.&E....G	6/6 7/6	7/-	1 0	-/4 May '90	1 0 0	240,000	De Kaap	8, Old Jewry.†
Moodies (15/- p.)G	1/6 2/6	2/6	1 0	—	0 10 0	120,000	De Kaap	8, Old Jewry.
Namaqua C	17/6 22/6	22/6	2 0	2/6 July '91	2 0 0	194,351	Namaqualand.	34, Leadenhall-bldg.
New Chimes..... G	20/- 22/6	1½	1 0	—	1 0 0	70,000	Witwatersrdt.	8, Old Jewry, E.C.
New Croesus..... G	1⅛ 1⅝	1¼	1 0	5 % Aug. '92	1 0 0	195,000	Langlaagte ..	4, Bishopsgt.-st. Wt.
New Jagersf. ....D	14 14½	14⅜	10 0	—	10 0 0	100,000	Transvaal	5, Copthall-buildings
New Primrose ...G	3⅜ 3⅝	3⅞	1 0	4/- July, '93	1 0 0	230,000	Witwatersrdt.	2, Draper's-gardens.
Nigel .....G	2¾ 3	3	1 0	10% Dec. '93	1 0 0	160,000	Witwatersrdt.	1, Crosby-square.
Nooitgedacht E. G	— —	—	1 0	—	1 0 0	160,000	Lydenburg ..	8, Old Jewry.
Oceana	1⅜ 2⅛	1⅝	1 0	25/- Nov. '89	1 0 0	150,000	Transvaal	4, Sun Court, E.C.
Ophir Concess. ...	— —	—	1 0	—	1 0 0	284,000	OrangeF.State	10, Moorgate-street.
Orange F.S.E. ...D	3½ 4	3¾	1 0	—	1 0 0	448,450	De Kaap	Jamaica-bgs.Cornhill
Oriental .....G	1/6 2/-	2/-	1 0	—	0 19 3	500,000	Kimberley ...	110, Cannon-st.,E.C.
Otto's Kopje.....D	1/- 1/6	1/6	1 0	—	1 0 0	138,750	Transvaal	29-30, Hol. Via., E.C.
Paarl Central... G	— —	—	1 0	—	1 0 0	230,328	Swaziland ...	6, Queen-street-place
Piggs Peak .....G	-/3 -/9	-/9	1 0	—	1 0 0	161,000	Potchefstroom	19, Bury-st., E.C.
Potchefstoom ... G	— —	—	1 0	—	1 0 0	72,046	Witwatersrdt.	33, Cornhill, E.C.
Princess Estate G	— —	—	1 0	—				
Randfontein .....G	9/6 10/6	11/-	1 0	—	1 0 0	1,996,500	Witwatersrdt.	59, Holborn Viaduct.†
Read's Drift .....D	5/6 6/6	5/6	1 0	—	—	50,000	Transvaal	19, Finsbury circus.
Robinson .....G	4⅛ 4¾	4¾	5 0	4% June '93	5 0 0	543,750	Transvaal	55, Holborn Viaduct††
Roodepoort Un. G	— —	—	1 0	—	1 0 0	100,000	Witwatersrdt.	Warnford-court.†
St. Augustine ...D	— —	—	1 0	—	1 0 0	485,000	Griqualand W	30-1, St. Swithin's-la
Salisbury New ...G	2¾ 2⅝	2⅝	1 0	—	1 0 0	93,000	Witwatersrdt.	1, Crosby-square.†
Sheba .....G	19/6 20/6	16/3	1 0	-/6 Aug., '93	1 0 0	614,450	Lydenburg ...	18, St. Helen's-place.
Silati .....G	-/3 -/6	-/6	1 0	—	1 0 0	625,000	Zoutpansberg.	4, Sun Court, E.C.
Simmer & Jack...G	4⅛ 4⅜	4	1 0	10% Nov '93	1 0 0	85,000	Witwatersrdt.	33, Cornhill.
S.A. Gold Trust ...	12/- 13/-	13/-	1 0	100% Mar. '90	0 10 0	220,000	South Africa..	8, Old Jewry.
Spitzkop.....G	1/9 2/3	1/9	1 0	—	1 0 0	144,531	Lydenburg ...	15, Bishopsgt-st, Wt.
Stanhope .....G	1 1¾	1¾	1 0	50% May. '93	—	34,000	Witwatersrdt.	1, Crosby Square.†
Sutherland R. ...G	-/9 1/3	1/2	1 0	—	0 17 6	220,000	Zoutpansberg.	3, Budge-row, E.C.
Teutonia.....G	— —	—	1 0	—	1 0 0	96,000	Witwatersrdt.	8, Old Jewry
Trans. Coal Trust...	— —	—	1 0	-/6 Oct, '93	1 0 0	439,965	Witwatersrdt.	Broad- t, House, E.C
Trans. Est. & Dev.	9/6 10/6	8/6	1 0	—	1 0 0	285,700	Transvaal	76, Old Broad-st. E.C.
Trans. Gold .....G	— —	—	1 0	1/- Dec, '92	1 0 0	250,000	Transvaal	Suffolk House, E.C.
Trans.Land(14/3p)	2/- 3/-	1/6	1 0	—	1 0 0	250,695	Transvaal	33, Cornhill.
Un. Ivy Reef.....G	20/- 22/6	22/6	1 0	—	1 0 0	45,000	Transvaal	110, Cannon-street
Un. Langlaagte ...	13/3 16/3	13/9	1 0	—	1 0 0	100,000	Witwatersrdt.	23, St. Swithin's-la.
Van Ryn ..... G	11/3 13/9	13/9	1 0	—	1 0 0	99,810	Witwatersrdt.	1, Crosby-square.†
Victory Hill .....G	— —	—	1 0	—	1 0 0	108,000	De Kaap	Portland House, E.C.
Village Main Reef	3⅛ 3⅜	3¼	1 0	—	1 0 0	132,000	Witwatersrdt.	8, Old Jewry.
Virginia.....G	— —	—	1 0	—	1 0 0	48,335	Transvaal	26, Budge-row, E.C
Vogelstruis .....G	— —	—	1 0	—	1 0 0	150,000	Witwatersrdt.	34, Leadenhall-bldgs.
Wemmer ....G	4⅛ 4¼	4¼	1 0	10% Nov. '91	1 0 0	55,000	Witwatersrdt.	19, Bury-street.††
Witwatersrandt ...	— —	—	1 0	—	1 0 0	250,000	Witwatersrdt.	19, Bury-st., E.C.
Wolhuter .....G	2¾ 2⅝	2⅝	1 0	—	1 0 0	120,000	Witwatersrdt.	Warnford-court.†
Worcester .....G	1⅜ 1⅝	1⅝	1 0	—	1 0 0	90,727	Witwatersrdt.	8, Old Jewry.†
Zwartland Land ...	— —	—	1 0	—	0 16 0	150,000	Transvaal	19, Birchin-lane,E.C

METAL TRADE STATISTICS.

JANUARY, 1894.

COPPER.

(From Messrs Henry R. Merton and Co.'s Circular for January, 1894.)

	Jan. 31, 1894.	Jan. 16, 1894.	Dec. 31, 1893.	31st JANUARY. 1893.	1892.	1891.
STOCKS IN ENGLAND AND FRANCE:—	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Liverpool and Swansea, Chili Bars	29,927	29,671	29,069	31,169	27,641	17,435
,, ,, Chili Ingots	456	456	456	152	191	310
,, ,, Chili Ores and Regulus (fine) ...	385	409	489	367	576	256
,, ,, Other Stuff (fine) & English Copper	5,587	5,450	5,253	9,085	9,256	11,547
London (including landing)	5,078	4,966	4,733	7,727	8,986	7,979
Stocks of fine Copper in Havre, Rouen, Bordeaux and Dunkirk	2,339	2,539	2,745	6,247	8,412	20,589
	43,652	43,591	42,745	54,757	55,062	58,096
ADVISED FROM CHILI by Mail and Cable, Fine Copper ...	2,700	3,100	3,700	3,100	2,000	2,800
,, ,, Australia, by Mail and Cable, Fine Copper	800	900	850	650	400	500
	47,152	47,591	47,295	58,507	57,462	61,396
Price of Chili Bars and G.M.B.'s per ton	£41 5 0	£41 15 0	£42 15 0	£45 2 6	£44 12 6	£52 12 6

COMPARATIVE STATEMENT.

—	Stock in England and France and Afloat thereto from Chili and Australia.	Price of G.M.B.	Arrivals: England and France.	Arrivals: Other European Ports.	Arrivals: England & France from Spain and Portugal (excluding Pyrites).	Arrivals: England & France from Other Count's.	Charters from Chili to Europe.	Shipments from Australia to London.	Total Suppl's.	Total Deliveries. †
			From N. America.							
Month ending	Tons.		Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
31st January ...1894	47,152	£41 5 0	4,921	2,809	1,477	890	1,350	800	11,947	12,080
31st December ...1893	47,295	42 15 0	3,848	4,252	1,687	852	2,700	500	13,839	13,571
30th November ,,	46,827	43 0 0	6,146	4,388	1,332	5,664	1,400	450	19,400	20,613
31st October ..... ,,	48,040	42 2 6	7,097	6,275	999	3,082	2,200	1,000	20,653	20,517
30th September ,,	47,904	41 17 6	7,840	3,971	1,255	621	1,700	600	16,087	16,144
31st August ..... ,,	47,961	41 12 6	4,272	2,588	1,535	645	1,600	400	10,940	13,462
31st July ..... ,,	50,483	41 12 6	4,236	2,412	614	2,607	2,400	400	12,669	12,141
30th June ..... ,,	49,955	43 10 0	1,914	2,310	1,958	2,548	1,850	550	11,130	11,126
31st May ..... ,,	49,951	43 2 6	3,179	987	1,291	1,271	1,750	450	8,928	11,071
30th April ..... ,,	52,094	44 10 0	2,521	905	799	1,084	1,600	550	7,459	10,636
31st March ..... ,,	55,271	45 5 0	1,312	687	1,577	3,291	650	600	8,417	10,566
28th February ... ,,	57,420	45 12 6	1,821	632	1,170	2,765	3,000	450	9,858	10,945
			49,207	32,216	15,994	25,360	22,100	6,450	151,327	162,682
31st January ...1893	58,507	45 2 6	3,266	455	1,452	4,899	1,000	700	11,773	9,011
31st December ...1892	55,745	46 17 6	3,235	542	2,555	3,006	2,600	300	12,238	9,991
30th November ,,	53,498	47 17 6	2,822	623	690	1,725	1,500	700	8,06.	10,640
31st October... ... ,,	56,078	45 12 6	752	850	782	2,822	1,650	500	7,43.	9,840
30th September ,,	58,482	44 2 6	1,048	535	1,519	2,315	1,750	400	7,667	8,803
31st August ... ... ,,	59,718	44 7 6	2,887	324	965	2,583	1,900	400	9,059	9,079
31st July ..... ,,	59,738	44 17 6	2,893	390	2,146	3,744	2,200	650	12,023	8,689
30th June ..... ,,	56,604	44 17 6	2,909	416	2,346	4,745	1,600	300	12,315	9,576
31st May ..... ,,	53,965	46 7 6	2,841	664	2,288	1,215	2,150	500	9,658	9,521
30th April ..... ,,	53,826	45 12 6	1,963	1,284	2,422	2,968	1,581	100	10,242	10,725
31st March ..... ,,	54,311	46 5 0	2,260	1,667	2,012	2,013	1,750	300	10,002	12,472
28th February ... ,,	56,781	44 5 0	2,282	495	1,734	1,277	2,000	300	8,058	8,739
			29,143	8,245	20,981	33,412	21,600	5,150	118,531	117,486
31st January.....1892	57,462	44 12 6	2,809	893	750	1,571	1,525	350	7,898	6,480
31st December ...1891	56,044	46 15 0	1,720	1,575	2,049	3,305	1,200	600	10,449	12,025
30th November ,,	57,620	44 12 6	2,007	1,417	872	1,825	2,050	400	18,571	10,766
31st October ..... ,,	59,815	46 5 0	1,427	1,244	1,734	4,893	900	800	10,998	10,533
30th September ,,	59,450	51 2 6	3,045	929	2,181	1,975	2,950	700	11,780	11,959
31st August ..... ,,	59,629	52 10 0	3,805	1,593	1,436	2,262	2,300	350	11,746	9,899
31st July ..... ,,	57,782	52 0 0	3,983	489	1,336	1,656	1,400	700	9,564	9,107
30th June ..... ,,	57,325	55 5 0	2,515	1,510	3,368	3,253	1,400	500	12,546	13,469
31st May ..... ,,	58,258	55 5 0	2,646	1,870	2,021	3,805	1,250	400	11,992	13,050
30th April ..... ,,	59,316	51 12 6	3,847	756	2,208	1,722	1,750	800	11,083	12,020
31st March ..... ,,	60,253	53 2 6	3,685	1,806	1,737	1,112	1,800	400	10,540	11,768
28th February ... ,,	61,481	52 15 0	2,516	1,405	1,368	2,731	1,650	800	10,180	10,075
			33,995	16,487	21,050	30,110	20,175	6,500	127,317	121,251

† Including Chilian and North American for all Europe.

TIN.

(From Messrs. A. Strauss and Co.'s Circular for January, 1894).

	30th December, 1893.	31st January, 1894.	31st January, 1893.	31st January, 1892.
	Tons.	Tons.	Tons.	Tons.
Straits and Australian spot	4,392	5,372	3,165	2,596
Ditto ditto landing	817	1,175	174	298
Straits, afloat	3,580	2,990	4,150	3,210
Australian, afloat	909	681	718	997
Banca, on Warrants.....	9,698	10,218	8,207	6,701
Billiton, spot	330	1,056	1,309	1,038
Ditto afloat.....	662	619	610	511
	1,661	1,262	523	922
	12,351	13,161	10,654	9,272
Total afloat for United States	750	825	2,305	1,675
Estimated stock in America.....	1,215	475	3,700	1,475
Total	14,316	14,461	16,659	12,422
Prices of Straits and Australian	£74 0 0	£71 0 0	£92 7 6	£89 12 6
Deliveries during the month in London.....	1,480	1,768	1,081	1,255
Ditto ditto Holland.....	575	450	550	659
	2,053	2,218	1,631	1,914

Shipments during the month from Straits to London ... ... 2,050 Tons
,, ,, ,, Australia to London ... ... 325 ,,
,, ,, ,, London, Havre, and Holland to America ... 360 ,,
,, ,, ,, Straits to America ... ... 425 ,,
,, ,, ,, Australia to America ... ... 50 ,,
,, ,, ,, Straits to Continent ... ... 1,100 ,,

—	During 12 months ending Jan. 31, 1894.	During 12 months ending Jan. 31, 1893.	During 12 months ending Jan. 31, 1892.	During 12 months ending Jan. 31, 1891.	During 12 months ending Jan. 31, 1890.
Shipments from Straits to London	25,980	19,748	17,408	14,200	18,673
Shipments from Straits to America	4,025	9,780	9,057	8,965	7,475
Shipments from Straits to Continent	9,921	5,680	4,675	3,905	3,775
Ditto from Straits to Europe and America ...	39,926	35,208	31,140	27,120	29,823
Shipments from Australia to London	4,495	4,597	4,289	5,050	5,942
Shipments from Australia to America... ...	300	700	800	705	750
Deliveries of Tin in London	19,565	13,968	17,324	16,177	18,377
Deliveries of Tin in London and Holland ...	27,227	22,404	25,342	24,067	25,848
Ditto in London, Holland, France, and U.S....	58,133	45,815	46,917	43,305	44,021

Banca in Trading Company's hands and afloat, 4100 tons.

PRICES: Straits and Australian, spot ... ... £71 0 0 three months ... £72 0
English Common Ingots ... ... 75 0 0 refined 77 0
Banca ... ... 74 10 0 Billiton 72 0 0

MINING NOTES.

HOME, COLONIAL, AND FOREIGN.

THE *South African Mining Journal* states that the Old Stanhope Geldenhuis workings have now been completely unwatered and the mine is being thoroughly sampled, with a view to definitely establishing the value of the deposits up on this portion of the property. The ground was originally opened up by two vertical shafts, separated from one another by a lateral distance of 360 feet. The western of these, which was used as a main shaft, cuts the beds at a vertical depth of 230 feet, and the eastern at 160 feet. From the former the second level has been partially opened up, and from the latter the first level, the two drives being connected by a winze put down in the vicinity of the main shaft. The "backs" between the two levels measure about 180 feet. As soon as possible, these workings will be connected with the Geldenhuis Estate workings proper, and with this object the drive on the second level will be immediately continued to the west to meet the drive about to be carried eastwards on the third level from No. 10 incline shaft.

THE whole of the appliances at the Stanhope Geldenhuis main shaft, including the headgear, hauling engine, and pumps, have been thoroughly overhauled, and are now in good working order. The cages have been fitted with safety clutches, and everything is in readiness for a start to be made. A Hirnant duplex compressor plant of antiquated type, capable of running eight drills, which was erected by the old management, will for the present be employed to assist in the development of this portion of the mine. As being uneconomical and inefficient it will, however, be only made use of temporarily, and as soon as connection with the main Geldenhuis workings has been established, the whole plant will probably be thrown out. The company would doubtless be glad to find a purchaser both for this plant and for the 40 stamp Turner mill with which this property is encumbered, and which, without extensive alteration, could hardly be made to satisfy modern requirements.

THE 15,000 ton cyanide plant recently erected by the Rand Central Ore Reduction Company at this property is now in full swing. For the treatment of the tailings five round wooden vats, each measuring 4 feet in diameter and 14 feet in height are employed, discharge being effected through a central orifice at the bottom of each vat. Three solution vats and four zinc precipitation boxes have also been erected. The pumps and lathes are operated by a small Tangye engine, steam being supplied from a 60 horse-power Ruston and Proctor boiler, whilst the haulage of the tailings from the settlings pits to the top of the vats is effected by means of a 16 horse-power winding engine, which draws up a train of six 20 feet trucks at a time. The tailings are free milling, with an average value of some 4½ dwts.

A VARIETY of causes have combined to render the progress made at the property of the Crown Deep Company somewhat slow, but within a very short time the management confidently expects that a far greater rapidity of work will be maintained. As long as the shafts were in soft ground, water difficulties interfered with the work. The shafts have now reached hard rock and still, for want of proper drilling machinery, only indifferent results can be shown. No. 1 shaft has been equipped with a compressed plant, but the engine recently broke down, and the spare parts required to repair the accident will not be available before the end of the present month. Pipes connecting No. 2 shaft with this plant have already been laid down, but, for the same reason, the drills cannot at present be employed. The actual distance sunk during December in No. 1 shaft was 53 feet, and in No. 2 31 feet, brings the total depth of the former to 335 feet and the latter to 295 feet.

THE purchase price of the freehold of the Crown Reefs Mynpacht, amounting to £25,000, has been paid over to the Langlaagte Estate Company. The transaction is, therefore, now completed, and the company will be from henceforward absolute owner of its mining area. The new machinery will be at work in the course of next month, when 180 stamps will be running instead of 90, as at present.

DURING December the No. 1 shaft at the Geldenhuis Deep Mine was carried down a further 14 feet, the additional depth being required for the construction of a sump. Preparations are being made for the commencement of the development of the mine from this shaft as soon as possible, and with this object a station is being cut, and about 50 feet of driving has been executed. No. 2 shaft was sunk a further 50 feet, and has now attained a total depth of 431 feet.

DURING the month of December last Messrs. C. S. King and Co., contractors, drove 323 feet of tunnel, 7 feet by 11 feet, in the Jeddo Tunnel at Ebervale, Luzerne County, Pennsylvania, with two 3½ inch Ingersoll Sergeant rock drills. This work was done by two shifts of men, each shift working ten hours per day.

THE ss. *Hugh Sleigh* sailed from Santander on the 27th ult with 1850 tons of the San Salvador Spanish Iron Ore Company (Limited) ore for Middlesbro'.

CAPE PARLIAMENT.—The Union Steamship Company (Limited) have received a telegram intimating that their chief agent in South Africa, Mr. T. E. Fuller, has again been returned to represent Cape Town in the Cape Parliament. Mr. Fuller was returned at the head of the poll.

MINING IN CORNWALL AND DEVON:

NOTES ON WESTERN MINING, EDITORIAL AND OTHERWISE.

THE share market is decidedly in a more hopeful and satisfactory condition, both as to business done and prices realised, though it is still largely and chiefly buoyed by the hope of the "good time coming," it is pretty widely believed, in early spring. Whether that view will be realised as fully as many imagine, we do not care to try to predict, but we do believe that there is every prospect of the improvement continuing and growing, especially as no effort is being spared by those in charge of the leading mines to work them as cheaply and efficiently as may be. Here every depression means advance.

THE ticketing certainly has moved in the right direction—that is, upwards; but it is a very small move after all, and the feature of the ticketing that strikes us as more important than this merely nominal change in the figures, is the fact that once again, after months of inequality, all the firms are fairly and on the whole equally represented in the buyers' list. That looks as if all hands are now agreed that the market is assuming a more settled condition, and that merely individual wishes and needs had been reduced to their minimum effect in presence of the general demand. The next ticketing, if so, should be noteworthy.

THERE was one point of the festivities at Tehidy connected with the coming of age of Mr. Basset—to whom all men wish so well—that is worth a special passing note. We refer to the feature at the table made by the great silver candelabrum, wrought out of Dolcoath silver, for that wonderful mine has really produced, and in commercial value, every metal found in Cornwall, save, perhaps, gold. Not that gold is unlikely to have occurred in the Dolcoath gossans; but that would be many many years ago, and so far as we know there is no record of it. There is, however, ample information touching the run of silver ore which supplied the material for this fine piece of plate, and which, if we mistake not, yielded upwards of £15,000 worth of the metal.

MANY changes have taken place since this "native" candelabrum first graced the sideboard at Tehidy, changes in all directions, for then Cornwall had practically the monopoly of the tin trade of the world, though Eastern competition was coming sharply into the field, and shrewd men like Sir Stamford Raffles spied breakers ahead, although it must be confessed also they predicted a total disaster which, bad as things are, is still some distance off, and probably will never happen. But in few directions have the changes been greater than in the relation of the lords to the mines on their estates. *Then* it was practically the invariable rule of the lord to *stand in* as an adventurer with his lessees, and share their risks as well as their profits, Lord de Dunstanville, Mr. Basset's most prominent and honoured predecessor being a leading example. *Now* a lord's duties are regarded as well discharged if he does not lay too heavy a hand upon the dues and is not slack in subscriptions; and it is not the lord himself but his steward that comes in contact with the adventurers, and his connection begins and ends with the credit side of the account. All changes are by no means gains; and if this severance of the owner of the soil from the men who find the skill and the capital and the labour to work the mineral wealth upon it has been inevitable—at any rate, it has been universal—it is none the less to be regretted. Indeed, in earlier days than those to which we now allude, the partnership of the lord in the venture was practically essential to its existence.

As we write, no one will venture to say what is to become of the Employers Liability Bill; and it is perfectly evident that, judging from the result of the recent meeting at Camborne to consider the matter, opinion in the county is very much and very evenly divided. The Mining Association are clearly in favour of contracting out; but the men seem to be about as clearly on the other side. Of course, the numbers of the Camborne meeting—58 for contracting out and 62 against—are very small; but the probability is that most of the large number who left, if they had voted at all, would have gone with the majority. The whole business as it stands is very inconclusive, especially regarding the abstentions.

SOUTH FRANCES, as revealed at the meeting on Thursday week, is in rather a bad way, but whether the reduction of the men's wages is a wise policy we will not venture to say. Men working on starvation wages will not do so much work as the same men would if properly fed, but it is quite a matter for the mine and the men themselves. Mr. Basset, the young "lord" of the mine, who has come of age this week, and in whose honour festivities on a high scale have been held in the mining district, has promised to forego the water rents for the time, and a Cornishman, anxious for the prosperity of the concern, expresses his willingness to take up nearly 400 more shares, so that it is seen the principal holders in the mine have full faith in the concern. We can only hope that South Frances may have a run of luck. She has been struggling long enough.

THE Wheal Coch part of Botallack has been working ever since 1740, and has never yet paid its way; but the adventurers seem to prefer a continuation of the work there to making any attempt to recoup those portions of the mine which were so rich for tin a quarter of a century ago. Many of the older shareholders think that the Chycornish part of the sett might with advantage be prosecuted even now—but we fear, from the tone of the last meeting that the days of Botallack are numbered.

WEST KITTY is making an experiment in withholding her tin from the market for a full four weeks. Mr. Reynolds evidently believes that a rise in the price of the metal is coming at last.

A DIVIDEND of 3s. or 3s. 6d. per share is expected at Wheal Grenville meeting in London on Wednesday next. The 233 tons of tin sold realised £10,755.

RAILWAY ACCIDENTS LAST YEAR.—A Blue-book has been issued giving returns of accidents and casualties reported to the Board of Trade by several railway companies in the United Kingdom during the nine months ending September 30, 1893. The principal accidents were the following:—Twenty-five collisions between passenger trains or parts of passengers trains, by which 82 passengers and five servants were injured; 24 collisions between passenger trains and goods or mineral trains, &c., by which 121 passengers and nine servants were injured; 11 collisions between goods trains or parts of goods trains, by which 10 servants were injured; one case of a train coming in contact with projections from other trains travelling on parallel lines, by which one servant was killed and three passengers were injured; 44 cases of passenger trains or parts of passenger trains leaving the rails, by which 15 passengers and five servants were killed and 77 passengers and 11 servants were injured; ten cases of goods trains or parts of goods trains leaving the rails, by which one servant was killed and two were injured; four cases of trains or engines travelling in the wrong direction through points, by which one passenger and one servant were injured; 20 cases of trains running into stations or sidings at too high a speed, by which 111 passengers and five servants were injured; 115 cases of trains running over cattle or other obstructions on the line, by which one person was killed and eight passengers and other persons were injured; 27 cases of trains running through gates at level crossings, by which one passenger was killed and one passenger and one servant were injured. The number of passengers killed in accidents to trains, rolling stock, permanent way, &c., was 17, and of servants of companies 7; 410 passengers were injured and 36 servants. By accidents from other causes (such as falling between platforms and carriages, getting in or out of trains in motion, passing over lines at stations) 58 passengers and 325 servants of companies or contractors were killed; 45 persons were killed at level crossings; 265 trespassers, including suicides, and 23 other persons not coming in the above classifications were also killed. The total number of personal accidents during the nine months amounted to 80 persons killed and 6497 injured.

REPORTS FROM THE MINES.

We find it necessary to announce that, owing to the vast numbers of mining reports, and items of mining intelligence which reach us invariably very late—up to, and frequently after the time of going to press—it is impossible to guarantee the insertion of all of them in the issue in which, in ordinary course they should appear. We always endeavour, however, to make this important feature as complete as possible, and if the secretaries of mining companies, mining captains, and others would kindly make an effort to let their reports, etc., reach us early on Fridays, when it is not possible to let us have them earlier in the week, their doing so would go far to ensure their insertion, and to promote the completeness of our Mining Intelligence.

BRITISH MINES.

Devon Great Consols.—Wm. Clemo, February 1: Watson's Engine Shaft: In the 172 fathom level east the lode is producing 1 ton of copper and mundic ores per fathom. In the 160 fathom level east the lode is worth 4 tons of copper and mundic ores per fathom. In the 148 fathom level east the lode is still looking well and is yielding 3 tons of copper and mundic ores per fathom. The weather continues good and the workings are proceeding satisfactorily.

Drakewalls.—J. Hosking and T. Chapman, February 1: The pumping engine is working well and could do far more work had the pitwork been strong enough to work at greater speed, but we are driving 6½ strokes per minute only, which scarcely keeps the bottom level in fork. We are able to fork at this speed but the rod pins of the pumping rod are frequently breaking, and we get lots of an hour or two almost daily in consequence. As soon as these old pumping rods can be changed the water difficulty will be ended. The shaftmen are crosscutting the lode south to north in the 160 fathom level east of the engine shaft with the expectation of discovering mundic on the north part; they are now passing through capel with a little mundic and tin. In consequence of the water in, we are unable for the moment to send up our better class tin stuff, but the stopes for arsenic in the back of the 160 fathom level east of the engine shaft are producing fair mineral.

Green Hurth.—W. Gray, January 26: Annie's Vein: At the south forehead the vein has improved for lead worth 1 ton per fathom. The stope in back of the above level continues as last reported, worth 1 ton per fathom. The drive from the sump at north end on Annie's vein maintains its value, and is worth 2 tons per fathom. In the north west branch above the 3 level the south end is yielding lead worth 2½ tons per fathom. The north end during the week has been poor but to-day shows an improvement for lead, worth 12 cwts. per fathom. We have completed delivery of the Nenthead parcel, total quantity delivered is 25 tons 4 cwts.

Leadhills.—T. Newbigging, January 30: Brown's Vein: Ten are set to drive the 160 fathom level now 2 fathoms 5 feet south of Jeffrey's shaft at 100s. per fathom. Vein 6 feet wide, showing rather dark stone, but well mixed with spar and spots of ore. Seven to drive the 160 fathom level now 2 fathoms 0 feet 6 inches north of Wilson's shaft at 100s. per fathom. Vein about 4 feet wide, composed of nice looking stone and spar, but no ore. Four to assist woodmen to shut Wilson's shaft between the 145 and the 160 fathom levels and fix air boxes in Jeffrey's and Wilson's shafts on shifts. Three to stope above the 145 north of Jeffrey's shaft at 37s. 6d per fathom, worth 35 cwts. of ore per fathom. Two to stope above the 130 north of Jeffrey's shaft at 47s. 6d. per fathom, worth 30 cwts. of ore per fathom. Two to drive the 115 fathom level now 17 fathoms 0 feet 6 inches north of Jeffrey's shaft at 105s. per fathom. Vein above 4 feet wide, rather dried in character for yielding ore, there is however a good mixture of spar. Two to No. 1 stope above the 115 north of Jeffrey's shaft at 45s. per fathom, worth 25 cwts. of ore per fathom. Six to clear out broken ore from No. 2 stope on shifts. Five to No. 3 stope at 42s. 6d. per fathom, worth 30 cwts. of ore per fathom. Five to No. 4 stope at 42s. 6d. per fathom, worth 35 cwts. of ore per fathom. Five to sink below the 100 north of Jeffrey's shaft at 100s. per fathom, worth 30 cwts. of ore per fathom. Five to drive the 100 fathom level now 108 fathoms 5 feet, south of Wilson's shaft at 85s. per fathom. Vein above 4 feet wide showing kindly stone nicely mixed with spar and ore worth 20 cwts. per fathom, nice dampness. Seven to drive the 85 fathom level now 127 fathoms 3 feet south of Wilson's shaft at 80s. per fathom. Vein above four feet wide, charged with nice looking spar and ore worth 100 cwts. per fathom. Ten to sink winze now 1 fathom 1 foot 6 inches below the 85 south south of Wilson's shaft at 115s. per fathom, vein above 4 feet wide showing kindly spar and ore worth 110 cwts. per fathom. Two to stope above the 85 south of Wilson's shaft at 35s. per fathom worth 100 cwts. of ore per fathom. Five to No. 2 winze below the 70 south of Wilson's shaft at 85s. per fathom, vein above 4 feet wide charged with spar and ore worth 30 cwts. per fathom. Four to drive above the 50 south of winze at 75s. per fathom worth 15 cwts. of ore per fathom. Five to stope below the 35 south of Flat Rod shaft at 45s. per fathom worth 70 cwts. of ore per fathom. Five to stope above the 35 south of Flat Rod shaft at 40s. per fathom worth 25 cwts. of ore per fathom. Sarracole vein: Three to drive Gripps adit now 95 fathoms north of Georges Roust vein at 100s. per fathom vein above 4 feet wide showing a nice rib of spar, but without ore. Three to drive Gripps adit now 65 fathoms 5 feet south of George Roust vein at 95s. per fathom vein above 4 feet wide composed of kindly stone and spar with occasional spots of ore.

Phœnix United.—Jno. Williams, Jno. Rundle, Wm. Manby, Jas. Hosking, January 31: Setting Report: Wests Shaft: The 80 to drive west on the north lode by four men at £4 per fathom, lode worth £9. A cross cut to drive south in granite at the 40 by two men at £1 10s. The lode to strip out at the adit west by two men and two boys at £2 10s., lode worth £8 per fathom.—Western Mine: The 100 to drive east by two men at £4, lode worth £7. The 100 to drive west by four men at £7, lode worth £12. To rise in the back of the 100 by two men at £4, lode worth £8. The 70 to drive west by two men at £3 10s., lode £3. We have 46 men and six boys stoping in this part of the mine at the 40 fathom level and above the lode being worth on an average £3 per fathom. To sink a winze in the bottom of the midway level west by four men at £3 15s., lode worth £8. We have at various points 29 tribute pitches working by 94 men at tributes varying from 6s. to 13s. in the £ for tin.

Polberro.—Charles Thomas, John Harper, January 25: The 26 end west on the Pink lode continues to look well. The lode in the end is 5 feet wide, and is worth £15 per fathom. The 26 east yields 15 lbs. tin to the ton, and the lode continues to maintain its size and general character as last reported. We are still driving through occasional small branches in the 26 cross cut north, yielding a little tin and letting out water. The lode in the 20 west is easy for driving, and we are getting occasional stones of tin in the end.

Wheal Grenville.—Report on Wheal Lead company's mines for the week ending January 27: Groverake: Slate hill drift east spurry vein poorer in ore, but better to drive, end worth 12 cwts. per fathom. Firestone drift east vein spurry and slow to drive worth 12 cwts. per fathom. Adamson's drift west vein continues about 3 feet wide of spar poorer in ore, worth 12 cwts. per fathom. Rising from Rowell's old ground to 30 fathom level vein spurry but poor, worth 6 cwts. per fathom. 60 fathom level east vein of spar with some stone intermixed and a little ore, worth 6 cwts. per fathom. Groverake cubic fathom stopes worth 14, 12, 12, 16, 10, 12, 16, 16, 14, 12, 10, and 10 cwts per fathom.—Boltsburn: Driving east from Rowell's ground opening out south flatt, for heal continues about the same, worth 6 cwts per fathom. Cross cutting to north flatt west from Lonsdale's ground continues very hard, a mixture of spar and stone with a little ore in cavities. Rising to prove the south flatt west from Baty's ground the ground is unchanged. Stopes in Boltsburn worth 40, 38, 28, 40, 28, 30, and 10 cwts. per fathom.—Sedling: The 56 level is now opened 90 4-8th fathoms east from drawing shaft. Level crushed full at present. Cross cut north from bottom of shaft in scar limestone, we have now driven 5½ fathoms, vein not yet cut, but indications are better. We have cross cut south from shaft 3 feet, end of hazel grey beds and a little plate. The 64 level east is driven 32 4-8th fathoms, vein 3 feet wide worth 14 cwts. per fathom. 64 fathom level stopes east and west worth 14, 16, 14, 18, 14 and 12 cwts. per fathom. Ore raised for week 76 tons. Ore dressed for week 118 tons. Ore, slag, and fume smelted for week 139 tons, producing 73 tons of pig lead.

Wheal Agar.—R. Daniel, M. D. Penhale, January 27: Setting report: The 320 fathom level to drive west by machine and six men at £11 per fathom, lode worth £12 per fathom. The 320 fathom level to drive east by machine and six men at £11 per fathom, lode worth £12 per fathom. We have opened in this lode 9 fathoms, 5 of which has been good. We have also since the meeting taken penthouses at the 310 and 315 fathom level and put road to the bottom. The 310 fathom level to drive west of rise on the new north lode by four men at £11 per fathom, lode worth £9 per fathom. The 285 fathom level to drive east on main lode by six men and a machine at £8 15s. per fathom, lode poor for tin. The 270 fathom level to drive east on main lode by six men and two machines at £9 per fathom. Since the meeting we have had a lode in this end worth from £1 to £35 per fathom; in this end the lode is now disordered by crossheads and worth £15 per fathom. An end to drive east of eastern rise by four men at £10 per fathom, lode worth £9 per fathom.—Stopes: No. 1 in the bottom of the 255 fathom level west of winze by 18 men at 5s. per ton, lode worth £12 per fathom. No. 2 in the bottom of the 255 fathom level east of rise by 15 men at 5s. per ton, lode worth £12 per fathom. All stuff from No. 1 and 2 stopes and the 270 end set to a pare of men to tram at 1s. per ton. We have 14 tribute pitches working by 40 men at an average tribute of 9s. 5s. in the £.

Wheal Metal and Flow.—Stephen P. Curtis, January 31: Since my last report we have intersected a crossing in the intermediate level east of Parry's shaft about 4 inches wide mineralised throughout, the country rock in which it is embedded is of a promising nature. Incline tram we set to work this week, and I am pleased to say it is working well. The necessary gear work from the winding drum is being fixed in the engine house to enable the engineman to command that and the engine also. We have constructed a dam across the Flow for the storage of water for washing purposes. The tin is coming forward fairly well.

COLONIAL, INDIAN, AND FOREIGN MINES.

Chiapas.—E. T. McCarthy, superintendent, mine report for fortnight ending December 31: Providencia main advanced 8 feet 4 inches making a total of 387 feet 2 inches: in hungry ground. Providencia crosscut east No. 2 advanced 8 feet 2 inches, making a total of 57 feet: in hungry ground. Santa Fe drift advanced 3 feet, making a total of 16 feet 2 inches, in poor ground giving a little mineral. Taylor main west drift advanced 3¼ feet, making a total of 49 feet 2 inches, poor. Santa Fe winze, No. 2 cleaned out shaft cut pump station and put pump in. Taylor winze No. 3 advanced 4 feet, making a total of 4 feet. Commenced sinking in bottom ground shows some mineral. Santa Fe stope extracted 42 tons. Taylor No. 3 stope extracted 459 tons. Old Providencia extracted 142 tons, keeps good, but over burden increases. Taylor No. 2 stope extracted 49 tons. Taylor main drive west extracted 8 tons.

De Lamar.—Copy of Captain Plummer's monthly report of December: Mining: Ore breaking department: Wilson vein above the third level: The vein is 4 feet wide assaying $28 in gold and $1·20 in silver equals $30·20 per ton.—77 feet vein above the sixth level east: A portion of the vein is being carried measuring 7 feet wide. This section of vein is in close proximity to the excavation from whence the rich silver bands were broken. It assays $16·40 in gold and $17 in silver equals $33·40 per ton. At the 77 feet vein above the seventh level west the portion of the vein being carried at present is 10 feet wide assaying $24 in gold and $10 in silver equals $34 per ton. At the 77 feet vein above the eighth level east the vein here is extremely wide divided into first class ore, medium grade ore, and low grade. The high grade is 12 feet wide assaying $15·25 in gold and $15·50 in silver equals $30·75 per ton. The medium grade assays $20 per ton all told. No. 5 vein above the sixth level, the vein here is 7 feet wide assaying $20 in gold and $2·50 in silver equals to $22·50 per ton. No. 5 vein above the eighth level, the vein is 4 feet wide assaying $29 in gold and $7 in silver equals $36 per ton. No. 5 vein above the ninth level west The vein is 5 feet wide, assaying $16 in gold and $12 in silver equals to $28 per ton.—No 6 vein above the eighth level: The vein is 2 feet wide assaying $47·50 in gold and $2·50 in silver equals $50 per ton.—No. 6 vein above the ninth level: The vein is 2 feet 6 inches wide assaying $40 in gold and $13 in silver equals $53 per ton.—No. 7 vein above the seventh level: The vein is 7 feet wide assaying $23·50 in gold and $00 75 in silver equals $24·25 per ton.—No. 7 vein above the eighth level: The width of the vein is 2 feet 6 inches assaying $24 in gold and $7·50 in silver equals $31 50 per ton.—No. 9 vein above the seventh level: The vein is 8 feet wide assaying $40 in gold and $8 50 in silver equals $48·50 per ton.—No. 9 vein above eight level: The vein is 5 feet wide assaying $20 in gold and $17 in silver equals $37 per ton.—No. 9 vein above ninth level: The vein is 3 feet wide assaying $45 in gold and $6·50 in silver equals $51·50 per ton.—Prospecting Department: 77 feet raise above fifth level west: This raise has been advanced 20 feet; total height 25 feet. The width of the vein is uniform being 4 feet. Its assay value is still too low to be of value as milling ore. The 77 feet vein seventh level east has been driven in the dyke and has cut into and across the Hamilton vein which at the point of intersection is of very low grade value. A raise has been put up above the roof of the level in search of shipping ore and we have been rewarded by finding some rich ore. The level has been extended 15 feet and the raise 20 feet. The full length of the 77 feet vein intermediate between eighth and ninth levels is 22 feet. It is being driven on the hanging wall section of the vein and is slightly below the line of the rich ore which shows above. Its width is 4 feet and assays $16 in gold and $4 in silver equals $20 per ton. The 77 feet vein ninth level east (footwall) is now extended 19 feet and it has lately developed good ore on the footwall commencing at a width of 6 inches and increasing to 3 feet. Present value $17 in gold and $17 in silver equals $27 per ton. The No. 5 vein ninth level east has been advanced for the month 6 feet, total length 103 feet; the vein became very narrow and was suspended. No. 7 vein ninth level west has been advanced for the month 31 feet, total length 41 feet. The vein has been improving of late. Its width is 2½ feet and its assay value $20 in gold and $12 in silver equal $32 per ton. No. 9 vein seventh level east has been advanced for the month 43 feet, total length 84 feet. Its with is 5 feet and assays $27 in gold and $10 in silver equal $37. No. 9 vein seventh level west has been advanced for the month 30 feet 6 inches, total length 34 feet. The vein is 9 feet wide assaying $28·75 in gold and $4 in silver equal $32 75 per ton. No. 9 vein eighth level west advanced for the month 32 feet 6 inches, the vein is of its usual width: the pay streak however is only 2 feet wide assaying $24 in gold and $10 in silver equal $34 per ton. The pay streak has been gradually narrowing and is probably approaching the broken territory lying to the westward. Footwall Streak from Ninth Vein proper, Eighth Level West: This streak or branch is an offshoot of the ninth vein, leaving the ninth vein at this level and pursuing an independent course northerly. It has been driven on 28 feet. Its width is 4 feet and it has assayed during the month high and low values alternately. Its present value is $10 in gold and $12 in silver, equal $22 per ton.—No. 9 Vein, Ninth Level East: Advanced 13 feet, assaying $28 in gold and $3·75 in silver, equal $31·75 per ton.—No. 9 Vein, Ninth Level West: Advanced for the month 25 feet. The vein is 3½ feet wide, assaying $35 in gold and $14 in silver, equal $49 per ton.—Incline Shaft below Eighth Level: The shaft has been deepened for the month 24 feet; total depth 65 feet. The hard belt of porphyry reported in my last monthly report has remained with us and impeded our sinking somewhat. The above represents all our underground operations, and I am pleased to report that everything is in good order throughout the Mine.—Milling Department: Our milling operations for the month just passed have been of their usual steady and uneventful character. We shut down on the morning of January 1, 1894, and resumed operations on the evening of the 2nd of January Table of work performed for December, 1893: Number of wet tons crushed 3633 98 tons, number of dry tons crushed 2263 13 tons. Assay value of the pulp gold $20·24, silver $9·28. Assay value of the tailings, gold $·78, silver $1·11. Total percentage saved, gold 51·43 per cent., silver 88·04 per cent. Number of Doré bars produced 27 bars, number of ounces pure gold produced 2,418,531 ounces, number of ounces fine silver produced 846,667·45 ounces. Value of gold produced $48,366·62, value of silver produced $3···,713·81—$81 100·46. Ore shipped during the month $12,000·00, miscellaneous revenue $111·95, $92 212·41 Deduct all expenses for the month $39,866·10, estimated profit for month (or at $4·90 to £ sterling £10,725), $52,546·31.—Surface Work: During the month past we have repaired the snow sheds at the Mine, and erected several feet of extensions to same. At the Mill nothing has been done of any particular importance.—Hotel Fire: On the morning of the 29th of December, at 3.15 a.m., the Hotel (the property of the Company) caught fire, and was burnt to the ground. It originated in the kitchen, which, being surrounded by higher buildings, could not well be seen from the street, and consequently was well under way when discovered. The fire department worked admirably, and, while to our great regret we lost the Hotel, we saved the office and warehouses on the one side of the Hotel, and the lodging-house and private dwellings on the other side of it. Estimated loss, including hotel buildings and contents, $18,000. The men are all in good quarters in the Company's lodging-houses, and a large and commodious dining-room has been erected with all the necessary appliances. It is unfortunate that the fire occurred in the snowy season, as it materially delays any prompt arrangements for the rebuilding of the Hotel. We have had exceedingly stormy weather during the past week, with large quantities of snow. The health of the camp is good at present, and everything is in good working order throughout.

Lisbon-Berlyn.—Extract from a report dated 30th inst. of the African Gold Recovery Company upon trials made upon Frankfort ores:—A considerable number of trials were carried out on each sample after grinding to pass a 60 sieve, and extraction of over 90 per cent. of the gold was obtained, the consumption of cyanide being moderate.

New Heriot.—The manager reporting on work done during the week ending December 23 says: 133 feet of driving, sinking, and cross cutting was done.—Battery: Mill has run six days 18 hours 42 minutes crushing 956 tons, yielding 1895 ounces clean amalgam and 585 ounces 8 dwts. smelted gold.—Cyanide Work: Six vats were filled during the week at an estimated tonnage 516. Theoretical extraction 73·86 per cent. During the week a new and larger separator was put into the works. This work delayed us 15 hours and accounts for less tons treated than on previous weeks. The above separator is working well and I have no doubt will give better results. All machinery is in good order and working well.

Pahang Kabang.—Report for October: Myah: The new adit level was driven 40 feet, total 271 feet. The rock is getting harder and progress slower in consequence.—Old Adit: Four men started a rise here to hole through to the old Chinese workings above. When through this rise will answer as an air shaft in the future; 19 feet is completed. Is in a good lode 6 feet wide carrying two good walls.—Tramway: Good progress was made laying down the rails on the Myah tramroad. Three strong bridges were put up during the month and only one remains to be put up. Fair progress was made, too, with the earthwork for the tramroad from the battery site to the mines.

—Report for November: Myah: The new adit level was driven 34 feet, total length 305 feet. The old adit was driven 2 feet west on the course of the lode, and is now 375 feet from the crossing. The lode in the end is rather broken up and discoloured, 5 to 6 feet wide of lode matter. At present of not much value but of good appearance. The rise mentioned in last report was holed through during the month to the old workings. Total risen 34 feet. The lode at the bottom of the old workings is very big, over 12 feet wide. Brand's adit level new drive was started and 30 feet accomplished. It was started lower down the gully than where the outcrop of the lode is, so that it is not expected to be on the lode until some time this month. Steady progress has been made on the tram route.

Salisbury Gold.—The manager reports on the workings for the month of November as follows: Total number of feet driven sunk and risen 324 feet 6 inches made up as under: South reef third level rise 2 east advanced 10 feet, total 44 feet 6 inches. South reef fourth level winze 1 east advanced 20 feet, total 53 feet 6 inches. South reef fifth level drive west advanced 28 feet, 6 inches, total 142 feet. South reef fifth level drive east advanced 34 feet, total 152 feet. South reef fifth level crosscut drive south advanced 3 feet, total 3 feet. South reef fifth level winze 1 west advanced 15 feet, total 15 feet. South reef sixth level drive east advanced 46 feet, total 54 feet. South reef sixth level drive west advanced 36 feet, total 46 feet. Main reef leader third level drive west advanced 11 feet, total 58 feet. Main reef leader third level winze 1 east advanced 10 feet, total 40 feet. Main reef leader fourth level drive west advanced 3 feet 6 inches, total 427 feet 6 inches. Main reef leader fourth level winze 1 west advanced 5 feet, total 91 feet. Main reef leader fourth level rise 2 west advanced 18 feet, total 18 feet. Main reef leader fourth level winze 1 east advanced 12 feet 6 inches, total 13 feet. Main reef leader fifth level drive east advanced 36 feet, total 300 feet. Main reef leader fifth level rise 1 west advanced 12 feet, total 12 feet. Main reef leader sixth level drive east advanced 6 feet 6 inches, total 6 feet 6 inches. Main reef leader sixth level drive west advanced 6 feet 6 inches, total 6 feet 6 inches. Main reef leader sixth level crosscut no th advanced 11 feet, total 63 feet.—Milling: The mill ran 28 days 6 hours; ore milled 2100 tons; gold extracted from the battery 1223 ounces 13 dwts.; gold extracted from the cyanide works 726 ounces 13 dwts; total 1950 ounces 6 dwts., value £1352 7s. 2d.; total working expenses per ton, including redemption, £1 13s. 11d.; value of yield per £2 2s. 3d.; expenditure on capital account £1517 1s 3d.; expenditure on revenue account £5109 19s. 9d.; profit for the month £1142 7s. 5d.

Australian Broken Hill Consols.—The mining manager reports by mail for the fortnight ended December 21: Block 96 main shaft 280 feet level east prospecting drive driven 13 feet 8 inches, total 129 feet 6 inches. No change except that the country is softer. Incline sunk 6 feet 6 inches total 519 feet. Lode continues to dip and is rather pinched. A little native silver and fahlerz has been met with. No. 4 level east of incline driven 13 feet total 120 feet 6 inches. The lode has yielded a little fahlerz and galena. No. 3 level east of incline, stoping off winze No. 1 driven 14 feet. No change. No. 3 level west of incline, stoping off winze No. 1 driven 10 feet. A little galena has been met with otherwise no change. 280 feet level west, prospecting drive driven 18 feet, total 72 feet. No change.—*Note:* The quantity of rock mined during the fortnight was 2871 cubic feet.

Australasian Mining.—Fortnightly report of Mr. John James, manager, dated December 21: On the underhand stope going north on the Orient reef the crushing stuff keeps about the same and shows a little gold. In the stopes over the level going south there is about 15 inches of crushing stuff showing a little gold for the past fortnight. The stopes over the 690 feet level all show a little gold. With a good body of crushing stuff at present. For the four weeks ending 19th December there were 352 tons of quartz raised and crushed for a yield of 242 ounces 14 dwts. 6 grains of smelted gold. This is a better average per ton than the previous crushing. The underground work in the mine will be stopped on 23rd inst. and the battery will stop crushing, when the usual overhaul and repairs in both places will be done to the machinery. There are 40 men employed 30 on the mine and 10 at the battery.

Balaghat Mysore.—Captain J. Pryor, January 10: Ogle's Shaft has been sunk 5 feet 6 inches or 62 feet below the 730 feet level. The lode is of a kindly appearance, but as yet the stuff only yields a trace of gold. We hope shortly to be sufficiently deep to start the new or 800 feet level, when we may look forward to a considerable improvement in the value of the lode. The No. 1 winze in the bottom of the 730 feet level north has been sunk 5 feet 3 inches or 37 feet 9 inches below the level. The quartz is 15 inches wide and assays 2 ounces 5 dwts. 6 grains of gold per ton. The stopes in the bottom of the 730 feet level north produce quartz of 14 inches wide and assay on an average 2 ounces 1 dwt. 12 grains per ton. The stopes in the back of this level also yield quartz of 14 inches wide and assay on an average 1 ounce 9 dwts. 9 grains per ton. The stopes in the bottom and back of the 660 feet level north produce quartz of 1 foot wide and assay on an average 1 ounce 17 dwts. 7 grains per ton. The crosscut west at the 410 feet level north has been advanced 7 feet or 2E feet 3 inches from the level. The ground is at present very hard for driving and we find it a difficult matter to get the ground spent on contract with native labour only. Haines' shaft has been sunk 5 feet 6 inches or 32½ feet below the level. The quartz is about 1 foot wide and assays 7 dwts. 14 grains of gold per ton. The hanging wall of the lode has again become very much broken up and requires timbering, hence our not making greater progress with the sinking. The 800 feet level south has been driven 20 feet 6 inches or 86 feet 6 inches from the shaft. The quartz varies from 1 foot to 1 foot 6 inches wide and assays 5 dwts. 14 grains per ton. A stope in the back of this level yields quartz of about 2 feet wide and assays 4 dwts. 16 grains per ton. A stope in the back of the 800 feet level north produces quarts of 18 inches wide and assays 5 dwts. 14 grains per ton. The 800 feet level north from the bottom of the No. 1 winze at the 730 feet level south has been extended 14 feet from the winze. The quartz varies from 2 to 1 foot wide and assays this week only 8 dwts. 16 grains per ton. This I regard as only a temporary falling off and will very soon improve again in size. The No. 2 or midway winze has been sunk 10 feet 3 inches or 27 feet 9 inches below the level. The quartz has improved in size to 1 foot wide assays 3 ounces 10 dwts. 22 grains per ton. The stopes in the bottom and back of the 730 feet level south produce quartz of 1 foot wide which assay on an average 6 dwts. 2 grains per ton. Tennant's shaft has been sunk 6 feet 9 inches or 19 feet 3 inches below the 285 feet level. I am glad to say the quartz has improved in size as well as quality, it being now from 2 to 3 feet wide and of assay value of 8 dwts. 22 grains per ton. The necessary ground for tip and cistern plat, &c., has been cut and the men are now engaged cutting hitches for roll and other timbers to break the underlie. When this work is completed and the cistern fixed, we hope to be able to force the sinking of the shaft with greater speed. The 285 feet level north has been advanced 8 feet 6 inches or 35 feet from the shaft. The quartz varies from 2 feet 6 inches to 1 foot wide, but assays only 2 dwts. 19 grains per ton. Unless the lode at this point soon very materially improves, we purpose suspending its driving and await the sinking of the shaft to another and deeper level, by which time we shall be farther away from the influence of the dyke, when seeing the shaft is gradually improving we may reasonably look forward to opening up a more productive lode. The 2:5 feet level south has only been extended 1 foot 6 inches or 27 feet from the shaft. Here the quartz is only 1 foot wide, and being of a low value, viz., 2 dwts. 19 grains per ton. We have suspended the further extension in this direction until a greater depth is attained.—Surface: The new poppet heads at Tennants shaft have been erected, and the carpenters are now busily engaged completing the landing race &c. All other work is progressing satisfactorily.

Colon Gold.—The secretary reports that he has by this mail received advices from the superintendent as follows: I have received advice from Ibague that the Governor has resolved revoking the resolution of the Alcald Suplente, and the case is returned to Guayabal, which is so far favourable to our case. In the meantime the estate owners are holding meetings with a view of coming to an amicable arrangement with the company. If satisfactory terms can be thus arrived at, it will certainly be the best mode of settling the question and thus discontinue the present tedious litigation.

Gold Fields of Mysore.—Report on prospecting operations dated January 10: Golconda Block, No. 18 Shaft: The drive north of cross cut at the bottom of this shaft has been advanced 11 feet, total distance 26 feet. The lode having failed at this point we cross cut east 6 feet 6 inches. Not having met with anything we stopped it and have put the coolies to drive south of main cross cut 56 feet from shaft.—West Balaghat Block No. 2 shaft: Drive south at the bottom of this shaft has been extended 8 feet 9 inches, total distance 42 feet 9 inches. Lode in the face 4 inches wide assaying 2 ounces 3 dwts. of gold per ton. North drive at the bottom of this shaft has been driven 7 feet 6 inches, total distance 34 feet 6 inches. Lode in the end 1 foot 5 inches wide assaying 1 ounce 12 dwts. 13 grains of gold per ton. We have taken the water out of the No. 3 shaft and have sunk it 18 feet, total depth 85 feet. The ground was unsettled to a depth of 68 feet from surface. Here we met with a lode 1 foot 4 inches wide carrying gold. The lode in the bottom of shaft 1 foot 4 inches wide assaying 1 ounce 9 dwts. 8 grains of gold per ton. No. 4 shaft has been sunk 4 feet 10 inches, total depth 88 feet 6 inches. Lode in the bottom 1 foot 5 inches wide assaying 1 ounce 3 dwts, 14 grains of gold per ton. Road Block No. 4 shaft eastern lode has been sunk 8 feet 10 inches, total depth 36 feet 10 inches. Lode in the bottom 1 foot 3 inches wide assaying 2 ounces 2 dwts. 7 grains of gold per ton. No. 2 shaft north No. 4 has been sunk 8 feet 6 inches, total depth 33 feet 6 inches, Lode in the bottom 1 foot wide showing gold in the pan. I am sorry to say we were obliged to suspend the sinking of both these shafts through the great amount of water we had to contend with and our appliances not being equal to it. In the 300 feet level north of No. 1 trench we have made a trench 22 feet long, 3 feet wide, and 20 feet deep. Lode 2 feet wide showing gold by pan washing.

Harrietville.—Fortnightly report of Mr. T. G. Davey, superintendent, dated December 22: Mons Meg mine: Winze on main shoot below tunnel D sunk 9 feet, total 81 feet. Most of the shaft is now in the hanging wall, but the lode is again dipping into the winze. It is of promising appearance but poor at present. It is possible that the gold may be on the footwall, which will be tested as soon as we open out at 100 feet level. Crosscut west of 290 feet level below J extended 10 feet. We are here searching for the continuation of the auriferous stone which was lost as No. 2 fault was approached. So far we have not met with any success. Rise on north shoot at back of 44 feet level advanced 18 feet, total 24 feet. Lode much disturbed, somewhat auriferous but not payable.—Stopes: In the stopes at back of drive south of tunnel D the auriferous veins are extending into the footwall, giving the payable stone a width of from 13 feet to 17 feet. These veins are small but gold is freely visible in them. Over the 190 feet level the lode is 4 feet wide and becoming poor as the fault is approached. Lode in 240 feet and 160 feet stopes 2 feet wide and carrying visible gold.—Guerdon mine: Rise north of tunnel K on Guerdon lode advanced 8 feet, total 115 feet. Lode large but poor.—Swindle lode: Fhallow tunnel extended 5 feet, total 173 feet; ground somewhat harder.—Tiddledee mine: Stope at back of tunnel B on new shoot, lode 4 feet wide and payable. Jackass mine, vein in old stopes at B becoming poor.—Surface: Tunnel under Jackass road advanced 18 feet, total 115 feet. Passed through large quartz vein carrying colors of gold.—Returns: The returns for four weeks to 13th inst are as follows: Mons Meg 751 tons, Guerdon 26 tons, Tiddledee 48 tons, Jackass 60 tons, yielding together 157 ounces 9 dwts. 12 grains of gold. Amalgamating pans, 21 tons of tailings and 1 ton concentrates for 27 ounces of gold. Roasting furnace completed, and roasting will be resumed after the Christmas holidays.

Loma Gold.—Mine report: The secretary has by the mail received from the company's consulting engineer the following report on the water supply: Section No. 2 or Upper Cruz Gorda: The ditch is cut at a grade of 16 feet to the mile and in length is 2319 yards. When finished it will bring the water to the lower Cruz Gorda rocks. The ground is easy but in places treacherous which has necessitated tamping the bottom of the ditch. This section is now practically completed but some of the carpenters' work, as watergates, &c., remain unfinished.—Section No. 3 or Lower Cruz Gorda rocks: A 15 inch pipe with sufficient head will pass the water along the sides of the precipices delivering it into the Lower Cruz Gorda section.—Section No. 4 or Lower Cruz Gorda: From the point where the pipe discharges a ditch has been made with a grade of 16 feet to the mile and in length 3505 yards. In sections 2 and 4 2090 feet of flumes have already been put in. This section is completed. I consider that the work is being carried out in a good and efficient manner and with all possible economy considering the local difficulties. I have inspected the Guaremo ditch and I consider that with careful attention and regrading in places the ditch can be made capable of carrying the whole water supply from the Misones, Cruz Gorda, and Guaremo streams. However good the company's property the shareholders can never reap the benefit without a constant water supply.—Mine: The superintendent writes: We have been washing as you will see by the mine diary. The gravel is looking good and we have less earth to contend with we should clean up in January. [A cablegram since received gives the result of this clean up as £210.]

Mysore Gold.—R. Hancock, January 10: Mining operations for the fortnight ending January 5: Rowse's shaft has been sunk 6 feet 6 inches, making a total depth of 19 feet 6 inches below the 1340 feet level. The 1360 feet level north, north of crosscut has been driven 10 feet, making a total distance driven of 55 feet 6 inches. The lode having pinched out we have put the machine to rise in the back of the level south 6 feet from the crosscut, which has been put up 7 feet 6 inches on a lode 2 feet 6 inches wide assaying 3 dwts. 6 grains. The 1340 feet level north, south of the crosscut has been driven 19 feet 3 inches, making a total distance driven of 72 feet. The lode 1 foot wide assaying 9 dwts. 2 grains. The 1260 feet level north has been driven 26 feet 6 inches, making a total distance driven of 619 feet 6 inches. The lode is 6 feet wide assaying 19 dwts. 14 grains. The winze in the bottom of this level has been sunk 20 feet, making a total depth of 49 feet 6 inches. The lode is 3 feet 6 inches wide assaying 3 ounces. We have a machine engaged cutting out a piece of ground in the back of this level for fixing a winding engine, &c. The 1260 feet level south crosscut west has been driven 1 foot, making a total distance driven of 6 feet 6 inches. The rise in the back of this level was suspended, and the machine put to drive north of the rise 170 feet on the angle of the rise from the back of the level, with the object of facilitating a communication with the 1160 feet level south, but after having driven 16 feet 9 inches the quartz became pinched and the ventilation so bad that we suspended the driving and have put the men to resume the rising in the back. There are two stopes in the back of this level the average width of the lode being 3 feet, giving an average assay of 2 ounces 16 dwts. 3 grains. The rise in the back of the 1160 feet level north has been put up 10 feet, making a total height of 91 feet. The lode is 1 foot wide assaying 3 dwts. 22 grains. There are three stopes in this level the average width of the lode being 2 feet 10 inches, giving an average assay of 1 ounce 5 dwts. 17 grains. The 1160 feet level south has been driven 16 feet, making a total distance driven of 66 feet. There are six stopes in the 1060 feet level north the average width of the lode being 1 foot 1 inch, giving an average assay of 1 ounce 3 dwts. 17 grains. We have also a pare of men engaged stripping down side in the bottom of this level in which the lode is 2 feet wide; no assay made. The lode in the stope in the back of the 990 feet level north is 1 foot wide assaying 9 dwts. 2 grains. We have also a pare of men stripping down side in the back of this level in which the lode is 1 foot wide; no assay made. There are two stopes in the 890 feet level north the average width of the lode being 1 foot 9 inches, giving an average assay of 16 dwts. 12 grains. We have also a pare of men engaged stripping down side in the back of this level in which the lode is 1 foot wide; no assay made. In the 780 feet level north the lode in the stope in the back of this level is 2 feet 6 inches wide assaying 6 dwts. 12 grains. In the 620 feet level north of cross cut the end has been driven 20 feet, making a total distance driven of 158 feet. The lode is 1 foot 6 inches wide assaying 1 ounce. In the 620 feet level south of cross cut. This end has been driven by hand labour 2 feet, making a total distance driven of 55 feet 6 inches. The lode is 1 foot wide assaying 17 dwts. The rise in the back of this level has been put up 8 feet, making a total height of 44 feet. The lode is 1 foot 6 inches wide assaying 19 dwts. 14 grains. The lode in the stope in the back of this level is 1 foot 6 inches wide assaying 1 ounce 18 dwts. 6 grains. In the 620 feet level south the lode in the stope in the back of this level is 2 feet wide assaying 2 dwts. 14 grains. We have also a pare of men cutting a plat at this level. In the 400 feet level north of cross cut the rise in the back of this level has been put up 13 feet 6 inches, making a total height of 17 feet 5 inches. The lode is 4 feet wide assaying 2 dwts. 14 grains —Taylor's shaft 400 feet level north: There are two stopes in the back of this level the average width of the lode being 2 feet giving an average assay of 11 dwts. 17 grains.—Gilbert's shaft 650 feet level north: This end has been driven 22 feet making a total distance driven of 141 feet. The lode is 1 foot wide mixed. In the 520 feet level north there are three stopes in this level. The average width of the lode being 2 feet 10 inches, giving an average assay of 7 dwts. 14 grains. In the 520 feet level south on the north part of the lode the end has been driven 25 feet 6 inches, making a total distance driven of 64 feet. The lode is 7 inches wide assaying 1 ounce 21 grains. There are two stopes in the back of the 360 feet level north, the average width of the lode being 2 feet 4 inches, giving an average assay of 13 dwts. 16 grains. There are two stopes in the back of the 290 feet level north the average width of the lode being 1 foot 9 inches, giving an average assay of 14 dwts. 7 grains. There are two stopes in the back of the 290 feet level south, the average width of the lode being 3 feet 6 inches, giving an average assay of 3 dwts. 22 grains. Tennant's shaft has been sunk 4 feet, making a total depth of 13 feet 3 inches below the 520 feet level. The lode is 1 foot 6 inches wide assaying 17 dwts. The 520 feet level north end has been driven 28 feet 6 inches, making a total distance driven of 193 feet. The lode is 3 feet 6 inches wide assaying 5 dwts. 5 grains. The lode in the rise and stope in the back of this level is 6 feet wide assaying 13 dwts. 1 grain. The lode in the stope in the back of the 360 feet level north, south of cross cut is 2 feet wide assaying 13 dwts. 1 grain. The end in the 290 feet level south, south of cross cut, has been driven 2 feet, making a total distance driven of 43 feet 6 inches. The lode is 8 inches wide mixed. We have resumed the driving of the 290 feet level south, north of cross out, on the 1st inst., which has been driven 10 feet, making a total distance driven of 191 feet. The lode is 1 foot wide assaying 1 ounce 4 dwts. 19 grains. The lode in the stope in the back of this level is 1 foot 2 inches wide assaying 5 dwts. 5 grains. Schaw's shaft 450 feet level north end has been driven 2 feet 6 inches, making a total distance driven of 1450 feet 3 inches; there is nothing here to report. The No. 2 rise in the back of this level has been put up 6 feet, making a total height of 161 feet. This working was suspended on the 31st December and the machine put to start No. 3 rise in the back of the level at the end of the cross cut which has been put up 7 feet, the lode is 9 inches wide assaying 3 dwts. 22 grains. The winze in the bottom of this level has been sunk 1 foot 6 inches, making a total depth of 50 feet, the lode is small and poor. The lode in the stope in the back of this level is 1 foot 6 inches wide assaying 14 dwts. 8 grains. 450 feet level south of cross cut end has been driven 14 feet 3 inches making a total distance driven of 275 feet 6 inches, the lode is 3 feet wide assaying 1 ounce 0 dwts. 21 grains. The lode in the stope in the back of this level is 2 feet 6 inches wide assaying 5 dwts. 5 grains. The winze in the bottom of the 320 feet level north has been sunk 3 feet 6 inches, making a total depth of 127 feet, the lode is 1 foot wide assaying 4 dwts. 13 grains. 320 feet level north of cross cut driving from top of rise on the fold has been driven 14 feet, making a total distance driven of 26 feet 6 inches, the lode is 2 feet wide mixed assaying 6 dwts. 12 grains. The lode in the stope in the back of this level 1 foot wide assaying 7 dwts, 19 grains. 320 feet level south of cross cut end has been driven 3 feet 6 inches making a total distance driven of 138 feet 6 inches. There is nothing here to report. The lode in the stope in the back of this level is 1 foot 6 inches wide assaving 1 ounce. The 220 feet level north end has been driven 5 feet making a total distance driven of 222 feet. McTaggart's shaft, 320 feet level north end has been driven 19 feet 6 inches making a total distance driven of 74 feet. The lode is 1 foot wide assaying 9 dwts. 2 grains. Glen shaft, 250 feet level north end has been driven 16 feet making a total distance driven of 1207 feet 3 inches. The lode is 1 foot wide assaying 3 dwts. 6 grains. The crosscut east in this level has been driven 3 feet making a total distance driven of 217 feet 4 inches. Ribblesdale's shaft has been sunk 9 feet 9 inches making a total depth of 175 feet 9 inches. 1060 crosscut west has been driven 25 feet 6 inches making a total distance driven of 263 feet 6 inches. Eastern prospect shaft has been sunk 1 foot 6 inches making a total depth of 72 feet 6 inches. This sinking has been suspended and the men put to crosscut east from the bottom of the shaft which has been driven 13 feet. The health of the camp is very satisfactory.

Mount Zeehan (Tas.).—The manager reports for week ended December 19: Argent section main engine shaft No. 6 lode: Stope in back of the 72 feet level north has been continued. Ore raised 68 tons 18 cwts. of good quality seconds and 2 tons firsts. Lode is for the most part 6 feet wide carrying good second class ore with a little first class. Stope in back of No. 4 lode 72 feet level north continued. Ore raised 57 tons 17 cwts. seconds of usual quality. Lode is about 2 feet wide. Rise south of cross cut have risen 8 feet, lode is at present 2 feet wide. Whip shaft has been sunk 4 feet, total 8 feet. Lode is about the same as last reported and carries very good seconds. Concentrates has been run five days of eight hours each, and has milled 139 tons seconds for 22 tons 14 cwts, concentrates, containing about 16 tons of lead and 1732 ounces of silver. On the 23rd December we shall knock off one boiler for overhauling. There will consequently be no further milling for ten days or a fortnight.

Mysore Reefs.—Fortnightly report of Captain M. Scantlebury, mine agent, dated January 10: Underlie Shaft: This shaft has been sunk 11 feet, now 170 feet from surface. The lode is improving, but the assay value of the quartz is low, 3 dwts. 6 grains and 4 dwts. of gold to the ton. Vertical shaft has been sunk 13 feet 6 inches, now 162 feet from surface. The shaft is now comparatively speaking dry, and we have to cart water to feed the boiler of winding engine. We are, however, expecting to meet with water every blast. Trial shaft on the western run of ancient workings is now sunk to a vertical depth of 29 feet. We have at present about 800 gallons of water daily, and have put down a small drawing lift. We want to sink this, if possible, to a depth of 60 feet, and then crosscut east to intersect the old workings.

New Minera.—Mining report for the two weeks ending January 28:—Four tributers working in the 255 yard level estimated to produce about 10 tons lead ore and blende per month. 275 yard level east of No. 2 rise on north lode six men on tribute, lode worth 3 tons per fathom estimated to produce about 16 tons per month. East of No. 2 rise on south lode two men on tribute, lode worth 2½ tons per fathom estimated to produce 4 tons per month. West of No. 2 winze two men on tribute, lode worth 3 tons per fathom estimated to produce 4 tons per month. 295 yard level driving west on north lode worth 1 ton blende per fathom, the main part of the lode is left standing on the south side. Stope on the north lode west of cross cut lode 9 feet wide worth 2 tons blende and 1½ ton lead ore per fathom. East of winze on south lode two men on tribute lode worth 2 tons per fathom estimated to produce 4¼ tons per month. East of winze on north lode two men on tribute lode worth 2½ tons per fathom estimated to produce 4½ tons per month. North lode west of cross cut two men on tribute lode worth 2½ tons per fathom estimated to produce 4½ tons per month. Two men on north lode near forebreast lode worth 1½ ton per fathom estimated to produce 4½ tons per fathom. 315 yard level driving east main of cross cut slightly improved. Stope west of incline shaft two men on tribute, lode worth 2 tons per fathom estimated to produce 4 tons per month Stope near forebreast two men on tribute, lode worth 2½ per fathom estimated to produce 4½ tons per month. Rise north of incline shaft two men on tribute lode worth 1 ton per fathom estimated to produce 2 tons per month. 335 yard level driving east of incline shaft lode worth 2 tons blende per fathom. West of incline shaft four men on tribute, lode worth 2 tons per fathom estimated to produce 8 tons per month. East of incline shaft two men on tribute lode worth 2½ tons per fathom estimated to produce 4½ tons per month. Dressing: 36 tons blende have been sent off since last report, making the total quantity sold 3762 tons blende and 1664 tons lead ore.

Nine Reefs.—Fortnightly report of Captain John Woolcock, mine agent, dated January 10: Vyvyan's shaft: This shaft has been further deepened 7 feet 4 inches, total depth below the 380 feet level 11 feet 1 inch. There is no material change in the nature of the lode matter (since my report of the 27th ultimo) which is composed of jointed schist, carbonate of lime, and at times carrying a little pyrites but of no value. The lode has been disordered for the past 25 or 30 feet sinking with no defined walls, but I was pleased to see yesterday what appears to be the hanging wall getting more defined and underlying about the right angle, and if this should be the case I am hoping that the lode will soon improve. There has been nothing done in the 380 feet level south since the last report, as I considered it was more important to get everything ready for sinking the shaft and fixing our standing lift, &c., after which the driving will be resumed. The 300 feet level south has been driven 14 feet 8 inches, total distance from shaft 187 feet 2 inches. The quartz leader in this end is very changeable varying in width from 4 to 8 inches, and in gold value from a few pennyweights to 1 ounce per ton. From a sample broken yesterday gave by assay 12 dwts. 8 grains of gold per ton, but the lode is in a most unsettled state without any apparent cause, which I hope will get more settled as the mine is deepened. The winze sinking at 160 feet south of shaft in the bottom of this level has been sunk 6 feet 9 inches, which is the first fortnightly measurement. The quartz leader is 5 inches wide, and worth by assay 9 dwts. 2 grains of gold per ton. The 220 feet level south has been further advanced 15 feet 9 inches, total distance from shaft 386 feet 8 inches. The character of the ground and lode matter continues without change to notice. There is a little water issuing from the end, and it has a promising appearance, but for a long distance it has been unproductive. It is our pioneer end, and I think it wise to continue the driving with a view to meeting with a fresh shoot of quartz.—Bennett's Shaft: The crosscut west at the 145 feet level to the north of this shaft has been driven 7 feet 5 inches, total distance from level 112 feet. We have met with nothing to value since the last report; but judging from the numerous veins and branches of quartz at surface I was hopeful of meeting something good ere this, but the driving must be further continued.—Surface: Good progress continues to be made in the deepening of the south shaft, which has been further sunk 20 feet 2 inches, total from surface 61 feet 10 inches. The ground is of a most promising character and favourable for sinking, as will be seen by the amount of work done by hand labour. We have met with several small patches and veins of quartz which have been tested by pan washing but they are not gold bearing so far, but may prove to be feeders to the lode in depth. The masons will finish the loadings for small air compressor, winding engine, and boilers, &c., in two or three days, after which we shall commence to remove the machinery to this shaft. There is nothing to call for comment in our machinery or pitwork department, which are in good order and working well. All our surface work is going on satisfactorily.—Health: The health of the camp is very good.

Oscar Gold.—The following report has been received from the mine dated Haugesund, January 24: Hodgkinson's lode: The 500 feet level north has been advanced during the week about 2 metres. The lode in the end is 5 feet wide with good walls. The quartz is running with the footwall and has a width of 2 feet, contains a little copper and iron pyrites and assays 4 dwts. 13 grains gold per ton. In the 400 north level we have driven on the lode in line of shute the quartz has a width of over 5 feet, contains a little mineral and has assayed 6 dwts. 12 grains gold per ton. In intermediate level the lode quartz is without alteration; good hard blue stripped quartz containing copper and iron pyrites and assaying just over 5 dwts. gold per ton. In bottom of 200 north the quartz varies in width from 6 inches to over 3 feet. The lode carries both copper pyrites and galena and has assayed during the week values for gold from 3 dwts. 22 grains to 1 ounce 12 dwts. 6 grains. The stope working in the back of the 1st south shows a good run of quartz averaging 2 feet in width and giving by assay 6 dwts. gold per ton. We are experiencing most wretchedly stormy cold weather which rather retards surface works.

Queen Cross Reef.—Copy of mining manager's report for fortnight ending December 12: Since I took charge of your mine stoping has been continued over No. 5 level on from a foot to 18 inches of stone. We have hauled 47 tons of stone for the fortnight, making 83 tons in the paddock. Davies and party, contractors for sinking the vertical shaft, have sunk 12 feet, making total distance from the surface 687 feet. The ground is harder and not so good for breaking. We are 85 feet below timber. Everything in connection with the mine is in good working order.

South East Mysore.—Fortnightly report of Captain M. Scantlebury, mine agent, dated January 10: Beresford's shaft has been sunk 5 feet now 34 feet in the underlie of the lode and 131 feet 9 inches from surface. The lode is fully 4 feet wide, 1 foot 6 inches against the hanging wall is dark blue quartz from which two assays has been made. No. 1 sample 9 dwts. 2 grains. No. 2 sample 2 ounce 5 dwts. 17 grains. The footwall part for a width of 2 feet 6 inches is intermixed with country rock, from which several samples have been taken. The highest assay is 3 dwts. 6 grains and the lowest 1 dwt. 23 grains. The water is very quick in this shaft. I have had laid 1200 feet of pipes to convey the water this distance from the shaft. It is quite possible that a part of the water pumped may have been finding its way back again into the shaft.—Pigott's Shaft: This shaft has been sunk 9 feet, now 117 feet 6 inches from the surface. The shaft is hard, but we are pushing it as fast as possible.

Transvaal Gold Exploration and Land.—The following particulars are from the general manager's advices dated January 2: Ore extracted at all places during week 377 tons, of which 39 tons Theta ore assayed 4 ounces 2 dwts. per ton.—Theta Mine: Total drivage for week 49 feet, of which 16 feet was in ore averaging 37 inches thick.—Beta Mine: Drivage 64 feet, thickness of deposit 8½ inches.—Nu workings: Drive from face was in 127 feet in ore of good quality 2 feet thick. Ore extracted Nu during December 112 tons; average assay 17 ounces 2 dwts. per ton.—Prospecting: There was nothing special to report at Brown's Hill or Kameel's Creek.

Tolima.—The directors have received advices by the mail of 25th January from their mines, of which the following is an abstract:—Frias November Returns: 220 tons (estimated) £10,228 1s. 7d., cost £3665 18s. 2d., profit £4562 3s. 5d. The underground agent reports 91 fathoms 5 feet 4 inches of ground expended of which 63 fathoms 1 foot were productive, leaving of unproductive ground 28 fathoms 4 feet 4 inches. The superintendent writes as follows, under date of November 18: The lode at the 110 east end is looking very favourable. Its general characteristics resembling very much the 90 level previous to striking mineral. The 90 east end continues to be driven in good mineral ground, the mineral has much improved in quality during the last few days, assaying 620 ounces per ton, I consider our prospects at this point as excellent. He further reports that Welton's lode has been intersected by the 90 crosscut north, and that driving east has been commenced on a lode 2½ feet wide, and giving spots of blende mineral. Also that the crosscut to new lode has intersected the lode or branch of the lode yielding some good stones of mineralised stuff, which when washed assayed 120 ounces per ton.—Engine shaft: Cutting of footwall is now finished to 30 feet below the 110 fathom level. Also during the last two weeks of the month men were engaged in cutting down the east end of the shaft below the 120 fathom level. Finished to 15 feet below the sole of the 120 fathom level. From now on, all force possible will be put to complete this to the 130 fathom level. 130 fathom west winze was sunk 13 feet 6 inches by eight men on company account, and is now 83 feet 6 inches as total depth below the 130 fathom level. The lode is rather unsettled and irregular in yield of mineral, and has given about 10 cwts. of rather low grade mineral per fathom. Nevertheless the character of the lode in general tends to warrant an improvement as a greater depth is attained. For the time being this winze is suspended, and the men put to reinforce the engine shaft. 130 fathom west end was driven 12 feet 6 inches by four men at £63 per fathom, being 201 feet 6 inches as total west of winze. The lode continues strong, and has given here and there a little mineral, but not to value 130 fathom east end was driven 12 feet 2 inches by two men at £65 per fathom, being 216 feet 8 inches as total east of winze. The lode is rather ill-defined and remains poor. 120 fathom west end was driven 50 feet 2 inches by four men at £75 per fathom, being 499 feet 1 inch as total west of engine shaft. The lode is very easy to work and remains quite poor. 120 fathom west back stopes were stoped 51 feet 3 inches by four men at £28 per fathom, and yielded as usual. 120 fathom east end from cross cut was driven 13 feet 4 inches by two men at £43 per fathom. The lode is rather unsettled and remains poor. 100 fathom east back stopes were stoped 24 feet 7 inches on company account, and yielded 3 tons of mineral per fathom. 110 fathom east end was driven 15 feet 5 inches by four men at £70 per fathom, being 613 feet 6 inches as total east of engine shaft. The lode is more defined, very strong, and of a most promising appearance. 110 fathom east back stopes No. 1 were stoped 47 feet and yielded well. 100 fathom east back stopes No. 2 were stoped 11 feet 4 inches and yielded well. 110 fathom east back stopes No. 3 were stoped 61 feet 7 inches and yielded 3 tons of mineral per fathom. 110 fathom east stopes No. 3A were stoped 82 feet 3 inches by four men at £23 per fathom and yielded 3 tons of mineral per fathom. 110 fathom west back stopes No. 1 were stoped 10 feet and yielded 6 tons of mineral per fathom. 100 fathom east back stopes were stoped 42 feet 9 inches by four men at £23 per fathom and yielded 3 tons of mineral per fathom, situated directly east of the eastern winze. 90 fathom east end was driven 24 feet by four men at £60 per fathom and is 755 feet 6 inches, as total east of engine shaft; the lode has yielded 15 cwts. of mineral per fathom, and up to date it maintains a steady improvement in yield of good grade ore. 90 fathom east crosscut north was driven 15 feet 1 inch by four men and a boring machine at £140 per fathom; this has intersected Welton's lode, and for current month driving is being extended east upon same; at point of intersection the lode is well defined but poor. Shallow adit adit crosscut north was driven 6 feet by four men on company account and is now suspended. Shallow adit main level was driven 5 feet on company account; I find that the lode here has been disturbed by a crosscourse At present we are driving upon a vein that resembles in character the main lode, yet until we get beyond the disturbing influences of this crosscourse we cannot expect to have anything very definite. Straightening mouth of shallow adit, this was driven 21 feet 8 inches three men at £36 per fathom. Crosscut to new lode was driven 6 feet 6 inches by two men at £80 per fathom, being 352 feet 3 inches to total length, and is without change to note.—Real de Frias: Work has been chiefly confined to clearing the mine of stuff that was brought down by the big flood in the early part of October last, but for current month we have resumed driving the deep adit west.

Victoria and Queen Gold.—Copy of manager's report for fortnight ending December 13: I beg to report work done in your mine during the past fortnight. We have been engaged in opening out the underlie and are now ready for the frame set, which the carpenters will have ready to send below on Friday morning. The carpenters have finished the blacksmiths' shop. I started all the men in the stopes again yesterday. A new brick magazine has been erected. We have hauled during the fortnight about 12 tons, making total in paddock about 32 tons. The teams started to cart yesterday. Machinery in good working order.

TIN TICKETING.

A TICKETING for tin ores was held at Redruth, on Tuesday, with the following result:—

VALUES OF ORES SOLD BY EACH MINE.

	Tons cwts.	Per ton.	Value.
Carn Brea No. 1	16 0	£38 15 0	£620 0 0
do No. 1a	16 0	39 0 0	624 0 0
do No. 1b	16 0	39 2 6	626 0 0
do No. 2	2 0	30 2 6	60 5 0
Wheal Grenville No. 1a	22 0	45 2 6	992 15 0
do No. 1b	16 0	43 12 6	698 0 0
do No. 2	5 10	29 7 6	161 11 3
Dolcoath No. 1	14 0	43 7 6	607 5 0
do No. 1a	13 0	43 5 0	562 5 0
do No. 1b	13 0	43 7 6	563 17 6
Tincroft	16 0	39 12 6	634 0 0
do	15 0	39 17 6	598 2 6
do	3 0	36 12 6	109 17 6
East Pool No. 1	18 0	39 17 6	717 15 0
do No. 2	1 10	18 7 6	27 11 3
Cook's Kitchen	18 0	42 5 0	760 10 0
Phœnix United	18 0	43 7 6	780 15 0
Killifreth	14 0	44 7 6	621 5 0
South Frances Utd.	12 0	42 17 6	514 10 0
West Kitty	11 0	44 12 6	490 17 6
Wheal Agar	10 0	39 2 6	391 5 0
South Condurrow	8 0	45 5 0	362 0 0
Hexworthy	3 0	46 5 0	138 15 0
	281 0		£11,663 2 6

AVERAGE PRICE PER TON £41 10s. 1d.

SPECIAL CORRESPONDENCE:

COLONIAL AND FOREIGN.

OUR SOUTH AUSTRALIAN LETTER.

Stimulated search for gold. A new gold discovery. A finding of Kerosine shale.

(FROM OUR OWN CORRESPONDENT).

ADELAIDE, 27TH DECEMBER, 1893.

THE hard times and the rich discoveries of gold in West Australia have, together, stimulated the search for the precious metal in our own Colony. The richest ground at present being worked here is at Angipena, about 30 miles in an easterly direction from the Beltana railway station on the Great Northern line. It has been mentioned in a former letter, that it is a rather remarkable diggings, from having yielded a considerable number of "nuggets" of gold, from a ¼ ounce up to 2½ ounces in weight, besides several heavier, as 4, 6, 8½, 12, 16½, 18 ounces, and 10 days ago one of about 50 ounces, the heaviest yet found in South Australia, was unearthed. It is always very difficult to ascertain even nearly approximately the amount of gold obtained on any diggings in this Colony, on account, perhaps, of the facilities for travelling to and fro, and the natural reticence of the diggers, but we know that an average of about 100 men have been working here for about nine months, and while there have been no complaints, nuggets as mentioned above have been obtained besides the ordinary fine gold. Parties of men have also been digging on older fields, as Barossa, Teetulpa, Waukaringa, Oakbank, &c., and most of them getting a living, some doing better. Our Government Geologist, Mr. H. Y. Lyell Brown, F.G.S., has lately returned from a three months' trip to the north-west of the Flinders Range, and discovered a new alluvial gold field near Warrina, 10 miles from the Great Northern Railway, and about 60 south of Vodnadatta, the present terminus of the line. He prospected three or four square miles of country and found fine gold in paying quantities all over it. Water is plentiful and the gold easily got within a foot of the surface.

A place so easily accessible and with the great advantage of abundant water for washing presents far greater inducements to a sensible man than the dry and uncertain alluvial fields of the far west. If the capital and labour that have been expended by South Australians in going or sending to West Australia had been laid out in our own Colony, we might have had more generally beneficial results to show.

Another new gold discovery has been made at Moppa, about five miles from Kapunda, and some 30 men are making wages there.

There is a splendid discovery of Kerosine shale within 60 miles of Adelaide, but particulars are not yet available. The shale is of the very best quality and in very large quantity.

THE PROSPECTS OF GOLD.

THE VIEWS OF MR. T. A. RICKARD.

MR. T. A. RICKARD, of Denver, contributes to the *Engineering Magazine* an interesting article on the prospects of gold production.

The highest yield on record for the whole world was in 1853, when it had a value of $155,000,000. In 1890 only $120,000,000 was reported. Since then there has been a fresh increase, but the output for 1892 was quoted by the director of the United States Mint as only $130,816,227. To this might perhaps be added from $5,000,000 to $7,000,000 for China, whose production is omitted from the figures for the last two or three years. The distribution of the principal yield last year was as follows:—Australasia, $33,870,800; United States, $33,000,000; Russia, $25,801,645; South Africa, $22,069,578; other countries, $18,330,249. In the United States in 1892 the leading contributors to the stock were the following States:—California $12,000,000, Colorado $5,300,000, South Dakota $3,700,000, Montana $2,891,386, and Idaho $1,721,364.

Inasmuch as the United States, the Colony of Victoria, Russia, and South Africa, are now the principal producers, the outlook in those countries is next discussed by Mr. Rickard. In California he attributes the decline from $81,294,700 in 1851 to only $12,000,000 last year to legislation forbidding hydraulic mining and to the exhaustion of the auriferous deposits in the alluvium. No recognition is given in the article in question to recent attempts to resume placer mining in old river beds and the partial removal of restrictions on hydraulic mining; but these, if the gravel is already pretty well cleaned out, leave little encouragement.

Mr. Rickard thinks that quartz mining, which does not yield so handsomely as the earlier methods did for a time, is now our only resource. Indeed, he deprecates the romantic ideas derived from Bret Harte's stories, and insists that the miner of to-day wins success, or in any other industry, only by energy, judgment, science and common sense. "Gold is rarely got by digging at grass-roots," he says. So, too, in Victoria, the falling off from $63,000,000 in 1853 to $13,481,793 was explained by an official commission, after an investigation, to the thoroughness with which the alluvium had been worked, and to the difficulties and expense of vein mining. Although the largest amount of gold credited to Russia was secured several years ago (in 1880, $28,759,860), Mr. Rickard regards the industry there still in its early stages. It deals mainly with the gravel at present. But too much obscurity involves the subject to make it safe to prophesy concerning that quarter of the globe. In the Transvaal there has been a rapid development in gold production from 1887, when the output amounted to $755,212, to 1892, when it was valued at $21,190,085; but the so-called "reefs" from which the precious metal is obtained are more like quartz lodes than alluvium, in Mr. Rickard's opinion; and he evinces scepticism regarding the alleged uniform richness and inexhaustibility of these deposits, reminding the reader that no California pioneer of 1849 expected the treasure so profusely strewn about him to give out, any more than the sanguine South African miners now look for a similar experience.

The existence of gold in considerable quantities in other lands where it has not been touched is granted by the writer here quoted, but he says that in most of those cases its location is amid unfavourable conditions. "To predict a near exhaustion of the gold deposits of the globe," he remarks in conclusion, "would be foolish; but it is certainly true that the difficulty of getting gold is daily increasing."

The last statement is, of course, to be taken in its broad sense as applied to the world generally. The difficulties increase as the surface deposits are exhausted, and gravel beds give out; but in California the change of conditions is gradually for the better. The industry was at its lowest ebb when hydraulic mining was stopped; but, as geological and mineralogical knowledge has increased, and mining methods and machinery been improved, confidence has returned, and the obstacles are not what they once were.

PROVINCIAL SHARE MARKETS.

THE CORNISH MINE SHARE MARKET.

MR. SAMUEL JOHN DAVEY, Dealer in Cornish Mine Shares, Redruth, Cornwall, reports under date of February 1 (4 o'clock), as follows:—We have had a very quiet market this week without much alteration of prices. Market is inactive to-day. Following are quotations:—Blue Hills, ⅜ to ½; Carn Brea, 12¾ to 13¼; Cook's Kitchen, ⅛ to ⅜; Dolcoath, 70 to 71; East Pool, 11 to 11⅛; Killifreth, £3 14s. to £3 16s.; Phœnix, ⅛ to ⅜; Polberro, 13s. to 15s.; South Condurrow, ⅜ to ½; South Crofty, 2 to 2¼; Tincroft, 11¼ to 11½; West Frances, 1⅜ to 1⅝; West Kitty, 7¾ to 8; Wheal Agar, 2⅞ to 3⅛; Wheal Basset, 3¼ to 3½; Wheal Grenville, 13¾ to 14¼; Wheal Kitty (St. Agnes), 13s. to 16s.

MR. MICHAEL WILLIAMS BAWDEN, Mining and Assaying Offices, Liskeard, Cornwall, writes (February 1) as follows:—The mining market is a shade firmer, business still restricted, and prices much the same with the exception of Wheal Basset, which have advanced 30s. a share on further improvement in the bottom level. Closing prices:—Botallack, ½ to 1; Blue Hills, 2s. to 2s. 6d.; Carn Brea, 12¾ to 13; Cook's Kitchen, ¼ to 1; Dolcoath, 69½ to 70; Devon Consols, 1 to 1⅛; East Pool, 11 to 11⅛; Killifreth, 3¼ to 3½; Levant, 6 to 6¼; Phœnix United Mines, ¼ to ⅜; Prince of Wales, 1s. 6d. to 2s. 6d.; South Condurrow, ⅓ to ½; South Crofty, 1¾ to 2; South Frances, c.p., ⅜ to ½; Tincroft, 11¼ to 11½; West Frances, 1⅛ to 1¾; West Kitty, 7⅛ to 7¾; Wheal Agar, 3 to 3⅛; Wheal Basset, 3¼ to 3½; Wheal Friendly, 2s. to 2s. 6d.; Wheal Grenville, 14 to 14¼; Wheal Kitty, ½ to ⅝.

MESSRS. ABBOTT AND WICKETT, stock and share brokers, and mining share dealers, Redruth, write under date of Thursday, February 1 (four o'clock) as follows:—The Cornish share market has maintained a fairly steady tone, in spite of the dulness in the tin market, and there has been a moderate enquiry for Dolcoaths, Killifreths, Tincrofts, and Bassets, and a general rise is confidently expected on any substantial recovery in the metal. Quotations herewith:—Carn Brea, 12¾ to 13¼; Cook's Kitchen, ⅛ to ⅜; Dolcoath, 70 to 71; East Pool, 11 to 11⅛; Killifreth, 3¼ to 3⅜; Phœnix, ¼ to ⅜; Polberro, ⅛ to ¼; South Condurrow, ¼ to ½; South Crofty, 1⅞ to 2⅛; Tincroft, 11¼ to 11¾; West Frances, 1 to 1¼; West Kitty, 7½ to 7⅞; Wheal Agar, 2¾ to 3; Wheal Basset, 3½ to 4; Wheal Friendly, 2s. to 4s.; Wheal Grenville, 14 to 15; Wheal Kitty, ½ to ¾. Tin, 70¾.

MANCHESTER.

MESSRS. JOSEPH R. and W. P. BAINES, stock and share brokers, Queen's Chambers, 7, Market-street, write February 1, 1894, (noon):—For the greater part of the past week the markets generally have exhibited a large amount of strength, and although later some little reaction is to be noticed in some cases, last prices are not far from the best of the week, and substantial advances in values are numerous. Home rails have been at the head of the list all along, the foregoing remarks applying to this department more fully perhaps than to any other section of the market. The dividends announced during the week being fully up to and perhaps in one case exceeding expectations, together with some very good traffic, and ease in money (culminating in a reduction in Bank rate to-day to 2½ per cent.) all helped the upward movement, and the result is as we have stated. Great Western held the biggest rise being 4½ up on the week. Following them are Caledonian undivided stock and Great Northern A, both of which are 3 better. Also Berwicks on an increase of dividend against corresponding period last year show 3¼ up. After these come numerous advances between 2 and 3, others ranging advances down to ⅛ in South Eastern A. In Canadians, notwithstanding some falling away on a disappointing traffic, Trunk issues show some good advances. Guaranteed are 2¼. First Preference 2¼. Second Preference 1¾. Third Preference 1¼, and ordinary 5/8 higher. Pacifics are 3/4 higher. Americans are better nearly all round, exceptions being found in Central Pacific, which are 1¼. Milwaukies 3/4, and Union Pacific 3¼ lower. On the other side Norfolk Preference 2¾. Denver Preference $2, and Louisvilles $1½ higher, besides several others on which the advance is but fractional. These changes are on balance for the week, after several, and in some cases fairly wide fluctuations in the meantime. Mexican rails show First Preference 2¼, Second Preference 2, and ordinary 1¾ higher. Consols have receded to the extent of ⅛ since Thursday last. In Colonial bonds, &c., the only change marked here is a rise of ⅛ in Cape of Good Hope Inscribed stock. In home corporation stocks, &c., with only a few lots changing hands, prices are but little altered, advances of ⅛ in Bradford Four per Cents, and ⅛ in Manchester Three per Cent, being all the variations there are to notice. Foreigners are better in several instances and declines are very few. On either side the extent of alteration is small, ⅛ being the maximum either way. Owing possibly to the attention required by the fortnightly settlement the number of transactions reported from the miscellaneous markets is smaller than of late, but nevertheless reaches a fairly moderate total. Coal and iron shares have again been to the front in the business passing. Bolckow Vaughan issues most particularly here, and Ebbw Vales to a fair extent. The balance of movement in prices looking generally is distinctly on the side favourable to holders. Some classes and many individual concerns are conspicuously better, whilst amongst the comparatively few declines there are none of much moment in the matter of amount.

BANKS have furnished but a desultory list of transactions, and the only changes in current prices for the week are as follow: Higher, National Provincials ¼, Mercantile of Lancashire 1/16. Lower, Manchester and Liverpool District ¼.

INSURANCE.—Whilst very little business is passing, better prices are in large majority. In fact there is only one instance of decline, viz., London and Lancashire ⅛, whilst advances are numerous. These advances are of small amount however, Commercial Union ¾ up being the best, and no others coming near that amount of advance.

COAL, IRON, &c.—As regards business nothing going on here save in Bolckows and Ebbw Vales, the former especially. Ebbw Vales mark no change on the week, but Bolckows offer a little slackening from best points, fully recovered the tone and finish as compared with last Thursday 1 up on the fully-paid and 7s. 6d. on the £12 paid Ordinary shares. Sheepabridge A are 2 ditto, B ¼, John Browns ½ to ¾, Nantyglo and Blaina Pref. 1 and Cammells ¼, and Earles ¼ to ½ higher. Patent Nut and Bolt are put down 1.

COTTON SPINNING, &c.—Not much doing publicly, but some fair buying is going on quietly, and generally current prices are stronger all round, except for a few of the worst esteemed concerns.

MINES irregular; on the few changes to be noted balance of change however is on the favourable side, both as regards number of alterations and amount thereof.

MISCELLANEOUS generally better, but there are some exceptions to the rule. Manchester Corn Exchange have further relapsed ¼ to 1 and Imperial Continental Gas are 3 down, and Spiers and Pond ¼. North of England Assets, &c., are distinctly better, both the shares and the debentures. Gas Light and Coke A are 1 and Ship Canal issues are stronger, particularly the Ordinary issue, these having apparently been considerably over-sold. In breweries Allsopps have provided a bit of a sensation having risen 11 on the week. Other changes are contradictory and small in amount on both sides.

LATER (4 P.M.).—With some attempt at realisation of profit prices generally are rather lower to-day, but on the lower figures the market was not without buyers, so declines have not attained much amount in any department. In Canadians and Mexicans prices are about stationary.

SCOTCH MINING AND INDUSTRIAL COMPANIES SHARE MARKETS.

STIRLING.—MR. J. GRANT MACLEAN, stockbroker and ironbroker (February 1), writes:—During the past week the markets have been more active, and prices are generally higher owing to the change in their position for the better especially in shipbuilding and allied industries. The rise in prices seems to be consolidating, and this progress probably only requires an absence of disturbing events. The reduction of the Bank of England's minimum rate of discount will also help to restore confidence.

In shares of coal, iron, and steel companies the principal advance is in Shotts Iron at 20 to 22½. A large business has been done in Marbella which advanced from 57s. to 85s. on the announcement that the lease had been renewed with Messrs. Heredias, but terms have not transpired. There have been heavy dealings in Steel Company of Scotland shares, which improved from 67s. to 90s. on "bear" closing; they are now 79s. Bolckow Vaughan are at 14, Earl of Dudley's Round Oak Coal, Iron, and Steel 22s. 6d.; Ebbw Vale 31⅝; Fifeshire Main Collieries, 35s.; Nantyglo and Blaina, 73; Niddrie and Benhar, 43s. 6d.; Sharp, Stewart, and Co., 77½; Stewart and Clydesdale, 8¼; Sheepbridge, 16½; Wilsons and Clyde, 9¼.

In shares of copper concerns there is not much alteration. Tharsis and Arizona are firmer, but Tinto and Mason unaltered.

In shares of home mines business continues quiet. Drakewalls offered. Carn Brea are at 13¼, Great Laxey 55s. to 60s., Leadhills 17s. 6d. to 22s. 6d., and Wheal Basset 55s.

In shares of gold and silver mines a considerable business has been done, excepting Balaghat, which are lower at 5s, on the reconstruction scheme, and the Indian shares are higher. Mysore have recovered, as the company is getting plant sent out to treat 2000 tons tailings per month. Mysore Reef higher on cutting of a valuable lode. Champion Reef, Mysore Gold Fields and Coregum have all been in favour. Broken Hill Proprietary improved to 57s. 3d., on a dividend of 1s. payable February 14, but are now easier. African Gold Recovery are at 24s. 6d.; British South Africa Chartered, 26s 6d.; Colon, 9d.; Cassel, 19s.; Consolidated Gold Fields of South Africa, 39s. 6d.; City and Suburban, 11⅜; Frontino, 18s. to 20s.; Gravel, 4s. 6d.; Jackson Gold Fields, 1s. 3d.; Joe's Luck, 4s.; Lisbon Berlyn, 2s. 9d.; Mysore Wynaad, 2s. 6d.; Nigel, 57s. 6d.; Otto's Kopje, 1s. 3d.; Robinson, 65s.; Sheba, 18s. 9d.; Springdale, 3s. 6d.; St. John del Rey, 19s. to 20s.; Sutherland Reef, 2s. 3d.; Silver King, fully paid, 3s. 9d.; South African Trust and Finance, 2s. to 3s. 6d.; Transvaal Developments, 10s.; Victoria (C.T.), 12s. to 14s.; West Argentine, 2s. 3d.; Wolhuter, 52s. 6d.; Zarums, 9d.

In shares of miscellaneous companies prices are generally better. In oil companies shares prices are rising on favourable trade reports and higher prices for sulphate of ammonia. Price's Candle Company announce a dividend of 15s., which compares with 12s. 6d. at this time last year. Broxburn Oil are at 8½ and Young's 26s, Nobel's Explosives are at 13¼, Roburite Explosives 31s. 6d., and White Lead 5s. to 8s.

EDINBURGH.

MESSRS. THOMAS MILLER and SONS, stock and share brokers, 69, Hanover-street, Edinburgh, report as follows under date of February 2:—There has been a strong upward movement in North British and Caledonian Deferred Stocks, and though the highest prices have not been maintained, both stocks show a considerable advance on previous prices. A large amount of stocks have been turned over. Most other railway ordinary stocks show a decided advance, though there has not been the same activity in them. The market generally shows a great increase of strength. British Linen and Royal Banks show a decline, but other banks have maintained former prices. Insurance shares quiet. Minerals strong. Oils higher. Coals, distillers, and other miscellaneous shares generally well supported.

REPORTS UPON MINERALS, TRADE, &c.

TRADE REPORT.

THE report of Messrs. BOLLING and LOWE, dated 2, Laurence Pountney-hill, E.C., January 30th, has the following:—Another year has passed which has been a very disastrous one to many financial institutions in this country, as well as in Australia, the United States and Southern Europe; in addition to this a revolution has occurred in Brazil—all of which has affected our ordinary trade to a vast extent. The steel, iron, and engineering trades—our own particular branch—have had to bear their share as the few following figures will show. Quantities and values of steel and iron exported for 12 months ending 31st December, 1891, amounted to 3,240,146 tons, value £36,877,000; 31st December, 1892, amounted to 2,739,279 tons, value £31,765,763; 31st December, 1893, amounted to 2,857,743 tons, value £30,614,155; but it is to be hoped that the year just commenced may see an increased demand upon our productive powers, and there are signs of this in the gradual recovery in the prices of all classes of pig iron, and in the fact that stocks of this article are comparatively insignificant. There is an element wanting to assist these trades—viz., a combination of technical and financial power designed to support enterprises of a character likely to give a fair return on the outlay. Capital has been largely devoted to mining companies—certainly a speculative investment—partly no doubt because these do not generally require larger amounts than sums varying from £50,000 to £200,000 called up in small instalments. So great are the facilities at the present day for obtaining information even respecting small undertakings as compared with what they were 20 to 30 years ago that we see £1 shares quoted daily in the Press with fluctuations of only a few pence, whilst concerns of infinitely greater importance are often not referred to. On the other hand undertakings such as municipal, gas, water, drainage, and electric lighting works, tramways, and railways, are as a rule of greater magnitude, and although requiring a heavier capital from the start and proving a greater drain on the resources of genuine investors without much prospects of prompt return, nevertheless offer but few chances of constant fluctuations which are so dear to the heart of the speculator. With heavy protective duties ruling nearly all over the continent the tendency is to bring out enterprises locally thereby giving but little scope for English contractors to come in, and in addition to this wherever the required materials, even at an increased cost, are manufactured in their respective countries, it is very often mentioned as one of the terms of the undertaking, that as far as possible they shall be obtained from home sources thereby making investors feel that their money is partly transferred to another industrial undertaking in which they are probably already financially interested.

Besides this a condition is often imposed abroad in arranging tenders, that whenever local offers do not exceed foreign ones by more than 5 per cent, the former shall have the preference, in fact this is a kind of extra protective duty in favour of "national" capital and labour. Whether the principle is right or wrong, it shows that the ruling powers consider that such a tax is a kind of indirect assurance to procure work for part of the population, which has to be borne by the nation as a whole—as a way of providing a "living wage" for a greater number. The decision of the Indian Government to attempt to fix the rupee value at 1s. 4d. was the first step towards dealing with the silver question in the East, but from the outset this position was found untenable and the further results of this policy have yet to be seen. The United States have on their part repealed the Sherman Act for the monthly purchase of 4,500,000 ounces silver. It has for many years been regarded as a rule that improvement in the iron and steel trades must begin with an increased demand from the United States; if this is to continue to hold good we must no doubt make up our minds that it will not be in the near future. Even should the McKinley Tariff be remodelled, and lower import duties fixed on iron and steel, we nevertheless doubt whether this will give a perceptible impetus to our exports, the productive resources of the States themselves being so far advanced, and the cost of manufacture there so reduced that little hope is left of their taking under any circumstances much more from us than at present. Steel rails have already been sold in the United States at a figure that would only allow English rails to come in to a few special ports where favourable freight conditions exist, even in the entire absence of any import duty. The commencement of new railways in foreign countries where British capital would be wanted in the shape of iron and steel must be the basis for an improvement; this means employment of labour here in the shape of production of material, our shipping would be engaged in carrying same, and when completed the railways would from time to time demand continued supplies. A revival of confidence in order to induce the investment of capital for such enterprises is, of course, a necessary condition.

Reverting to the position of the different branches of our trade, we may say that heavy goods like railway and shipbuilding materials have suffered severely under the financial crisis. Steel rails only commenced to permanently supersede iron about 20 years ago, and it has therefore yet to be seen what their lifetime is under ordinary traffic—*i.e.*, trains of moderate speed and weight. In most countries where numerous railways exist such as the United States, Russia, France, Germany, and Belgium, the rails, both for new lines and for relaying purposes, are made at home. What more immediately concerns us is whether such countries as are not rail producers can find the necessary means to construct new lines. It is easily seen from the quantities and values in the export list that the mainstay of the iron and steel trades during the present depression has been the orders for ordinary merchant iron such as sheets, hoops, bars, galvanised sheets, tinplates, &c. The extent of commercial depression or improvement cannot be measured at once. Prices of semi-raw material in the market may rapidly change, but old contracts, whether at high or low figures, will have to be worked off, so that months may elapse before any change beneficial or otherwise, is apparent in export quantities and values of manufactured goods. As regards the further development of inland transit, the Manchester Ship Canal has been finished at a cost of about £15,000,000 sterling (approximately double the estimated amount), and New Year's Day saw it opened. Whether it will give the anticipated results, either as regards traffic or dividend, remains yet to be seen. Other countries are making endeavours to cheapen the transport of bulky goods which are of relatively small value, but yet have to be dealt with in large quantities, and where quick delivery is of minor importance. Germany has almost completed the canal between the Baltic and the North Sea, which will cost about £5,000,000 sterling. It has also in course of construction a system of canals in the southern part of the Empire which will cost something like £10,000,000, besides others of less magnitude. Light railways as feeders to main lines are considered of such importance in Prussia, that the Government has just commenced to issue a monthly publication, the object of which is to aid and encourage their development.

France is contemplating several water communications with Marseilles on the Mediterranean and Bordeaux on the Atlantic as terminal ports, at a higher total estimated cost than those in Germany. The Scandinavian countries seeing the great importance of the North Sea Canal, which they expect will adversely affect their trade, are doing their best to counteract its effects, for instance—a part of the town and harbour of Copenhagen has been declared a "free port," the depth of water in the new docks is up to 30 feet, and an extensive area of land is left open for factories and warehouses. The means for bringing the scheme to development have been to a large extent provided by the Danish Government which gives an unconditional 4 per cent. State guarantee for a considerable amount and the result is seen in the splendid docks just completed. Our Government has now adopted the "eight hours day" for its workshops, and the proposed "Employers' Liability Bill" is occupying the serious attention of masters and men alike. In Germany the iron and steel works are liable to contribute by law, an average of about 50s. per annum for each workman to the Accident and Old Age Pension Fund, and the latter on their part have an equal amount compulsorily deducted from their wages to the same purpose. The coal strike has not yet shown the full extent of its damage to our iron and steel trades. The quantity raised in the United Kingdom amounts to something like 180,000,000 tons per annum and of this we export about 37,000,000 tons. After making allowance for what is used for home consumption—such as household, gas, and railway purposes—the importance of our coal production limits itself to the extent of its employment in the manufacture of goods which are either used at home or exported. There is a prevalent opinion that our greatest competitors in trade—say, Germany, France and Belgium—are largely dependent upon us for coal. Far from this being the case they raise already sufficient for their own use, and could easily increase their output; besides which they have plenty of cheap skilled labour wherewith to work it up into manufactured goods like our own, the raw material for which is as accessible to them as to us. Unless therefore the coal and the labour we put into our goods for export is obtained at such a rate that it enables us to compete successfully with our foreign rivals our general trade must gradually decrease. Our labouring classes would be the first to suffer under this state of things, for in order that they may be supplied with the very necessaries of life, we have to import food to such an extent that in the year 1893 it amounted to about £152,000,000 for home consumption or fully £3 17s. per head of our population; in fact this "food import" alone was more than equal to one-third of the value of goods of all kinds which we imported into the United Kingdom. No country is similarly dependent upon others for the supplies of its daily wants.

THE DIAMOND MARKET.

The following is from the report of MR. LUDWIG J. LIPPERT, dated Hamburg, January 29:—Since my last report issued at the end of 1893 the movements of De Beers have followed two diametrically opposite directions. At first the tendency was decidedly good, and although no marked improvement took place the market was steady, and the price rose to £16 7s. 6d. bid, whilst there were no sellers under £16 10s. After the last account De Beers were quoted on the 17th inst. 15¾ and 15⅞ ex dividend, but soon afterwards the tendency underwent a complete change. De Beers declined slowly, but steadily, without any important or lasting reaction, and they closed on Saturday £14 17s. 6d. to £15. Paris was the principal seller, and the large quantities thrown upon the market were only reluctantly taken up, but London seemed finally to absorb the principal part of the shares.

This decline having taken place immediately after the general meeting of the De Beers Company held on the 18th inst. at Kimberley, the opinion prevailed that the speech of Mr. Rhodes, by which he justified the subvention tendered to the Chartered Company, had occasioned the sales especially on the part of the French people, who could not be supposed to entertain the same warm sympathy for the Imperial obligations of the company as English people. But this view does not seem to be justified, as the financial assistance hitherto given by the De Beers to the Chartered Company has only been moderate and its extent was well known; it was also visible the day before yesterday that the reason of the sales was probably to be found in quite another quarter.

On Saturday afternoon I received the telegraphic communication that the Senate of the United States had raised the import duty on diamonds—viz., for rough stones to 15 per cent., for cut but uncut stones to 30 per cent., and for set brilliants to 35 per cent. This resolution of the Senate has not yet passed into law, but seeing the inclination of both American parties to increase the revenue by means of duties, the resolution is likely to become law. With business in a flourishing condition such an increase of the first cost price might not have produced much effect, but in the actual state of the American markets it seems likely to have some influence on the consumption and this may re-act upon the De Beers Company, for America buys about one-third of their production. It seems, therefore, probable that well-informed Paris houses knew beforehand of this tariff measure and sold out their holdings at the higher level. The

other securities dependent on the De Beers Company followed as usual the movements of the leading stock, although in a smaller degree. As a rule, real holders of these guaranteed stocks yielding a fixed dividend are not easily influenced by the market fluctuations of the De Beers shares. But a certain amount is always in the hands of the speculators inside and outside the Stock Exchange, who deal for the turn of the market and regulate their buying and selling by the fluctuations of the De Beers shares. In this way De Beers First Debentures, which have been bid for at 107 and even 107¼ were offered at 106¾. De Beers Second Debentures after being 104 bid were 103¼ to 103¾. Consolidated Bultfontein, which had reacted to 2os. 9d. under the pressure of a large block being offered for sale, close at 25s. 3d. ex dividend. Griquas, which previously quoted £6¾ to £6⅞, are now only worth £6⅝ to £6¾. This share is exceptionally still quoted cum dividend, as the company has not yet decided whether the 6d. which will be paid over and above the usual dividend, belongs to the actual holders, or to those who had to submit some years ago to a reduction of the same extent.

METALS AND MINERALS.

We extract the following from Messrs S. W. Royse and Co.'s report, dated Manchester, January 27:—Minerals: We cannot report much change in this department; there is only a moderate business being done and prices in general are steady. There is a further decrease in the imports of iron ore during December last as compared with December, 1892, but the imports for the 12 months ended December 31 last still show an increase in weight of 285,360 tons, and in value of £75,208 over those for the previous year. There is at present a ready outlet for chrome ore, and full prices are paid for ore of good quality. In manganese ore also a fair business is being done, values remaining unchanged. Foreign brimstone was imported into this country more freely during December, but in the imports during 1893, as compared with those during 1892, there is a decrease in weight of 324 tons, and in value of £22,984. Sulphate of barytes is dull and is pressed for sale. China clay shipments on foreign account continue small, but a fairly good demand exists in the home trade.—Metals: Until about the middle of this month business in pig iron was unsatisfactory, prices falling slowly but steadily, but since then a change has taken place, and values of both Scotch and Cleveland iron have improved to the extent of about 6d. per ton. During the last few days, at Middlesbrough especially, a brisk business has been done and some good contracts made for forward delivery. Better reports are also to hand from other markets, and there is reason to hope for a continuance of the improvement. The manufactured iron trade in the Midlands is responsive to this altered state of affairs and prices are firmer there. In the higher priced metals however business has been quite disappointing. Copper has fallen steadily about 20s. per ton since the beginning of the month. The consumptive demand has been small and of a hand to mouth description, but just now the market has a firmer tone. Tin is even worse, having lost nearly £3 per ton during the month, but is now tending upwards. Spelter has fallen and is just steady at present. Lead is quite dull.

The Stuckey-Arthur Ore Separator.—This is one of the simplest processes for the dry separation of the different parts of ore from its waste. The ore is first crushed and passed through a ten-hole to the inch sieve, and then through a number of sieves to get the parts as nearly as possible the same size. Then the different grades are placed one at a time in a hopper over a wheel with beaters across the top, so that the ore is allowed to fall on the beaters, and by the velocity of the wheel is thrown a greater or less distance, according to the size and weight of the particles of ore. On Wednesday some tin ore was crushed in a Chilian mill by Messrs. Harrold Brothers at North-terrace. This mill seems peculiarly suitable for this class of ore. The usual difficulty in crushing is that the mica gangue is flat, and can be crushed small only after passing two or three times through the mill. This ore was then passed over the grading sieves through one sieve, and not through another, so that the particles were between two sizes, *e.g.*, if the ores passed through a sieve ten holes to the inch and not through a sieve twenty holes to the inch it would be between one-tenth and one-twentieth of an inch. It is then passed into a hopper, and thrown by a wheel and separates mechanically, the oxide of tin being thrown furthest by the momentum and the quartz not quite so far. The fine thin particles of mica fall like snow close to the wheel. About 70 persons were present to see the ore separated, and the general concensus of opinion was that the separation of the oxide of tin from the gangue was perfect. The second grade sulphide ore from the Junction Mine after being sized was then put into the hopper and was fed automatically on to the wheel, and although the separation of the galena and the zinc blende from the quartz was not absolutely perfect, yet there was a particularly defined and clean separation of the galena from the zinc blende, though some of the lighter portions of the blende fell with the quartz, which the patentees said was unavoidable. The tailings would undoubtedly be made almost clean by passing through a finer sieve, the quartz being clearly larger than the zinc blende. We understand that the machine is to be sent to Messrs. Hawke and Co. of Kapunda, for some slight adjustments and alterations, and as soon as they are effected it will be on view, and the separation open to critical inspection. By Wednesday's trial it was clearly proved that no water is needed for the separation of Barrier sulphides, and "the process," as one gentleman remarked, "is as simple as it is extraordinary."—*South Australian Register.*

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M. G. STAAL, Secretary.
The Hague, January 22nd, 1894.

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‡Spartan	—	—	—	Feb. 17
‡§German	—	Feb. 11	Feb. 17	Feb. 24
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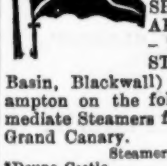

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*Doune Castle	Feb. 2	—
†Drummond Castle	Feb. 9	Feb. 10
‡Lismore Castle	Feb. 16	—
‡Hawarden Castle	Feb. 23	Feb. 24

* Via Grand Canary for Madagascar and Mauritius.
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Pioneerville Gravel Gold Company (Limited).—Registered 26th of January by Sydney E. Preston, 54 and 55, Coleman Street, E.C. Capital £60,000, in £1 shares. Objects: To enter and carry into effect an agreement made between an agent on behalf of the Hon. Ben Wilson, of Pioneerville, Idaho, U.S.A., of the one part, and the company of the other part, which provides for the sale to the company of certain Gravel Gold Estates, situate on Grimes' Creek, Boise County, Idaho, and to search for, win, get, quarry, reduce, amalgamate, dress, refine and prepare for market metalliferous quartz and other mineral substances. There shall not be less than two nor more than seven directors. The first are to be nominated by the signatories to the Memorandum of Association. Qualification £100. Remuneration £150 each per annum.

Brazilian Contracts Corporation (Limited).—Registered January 26 by Hargrove and Co., 16, Victoria Street, Westminster, S.W. Capital £100,000, in £1 shares. Object, to establish and carry on the business of commercial trading and commission agents, bankers, and financial agents in the United Kingdom, France, and in all or any of the States of Brazil, to act as contractors, financiers, bankers, concessionaires, &c., and to acquire contracts for the construction of railways, harbours, waterworks, gasworks, machinery, &c. There shall not be less than two nor more than seven directors. The first to be appointed by the signatories to the Memorandum of Association. Qualification £500. Remuneration as fixed by the company in general meeting.

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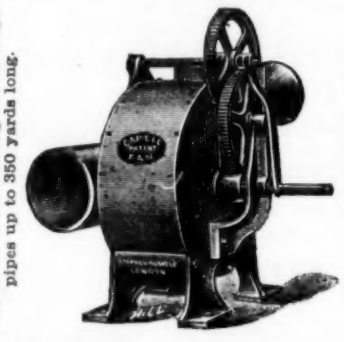

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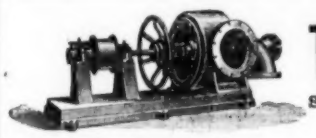

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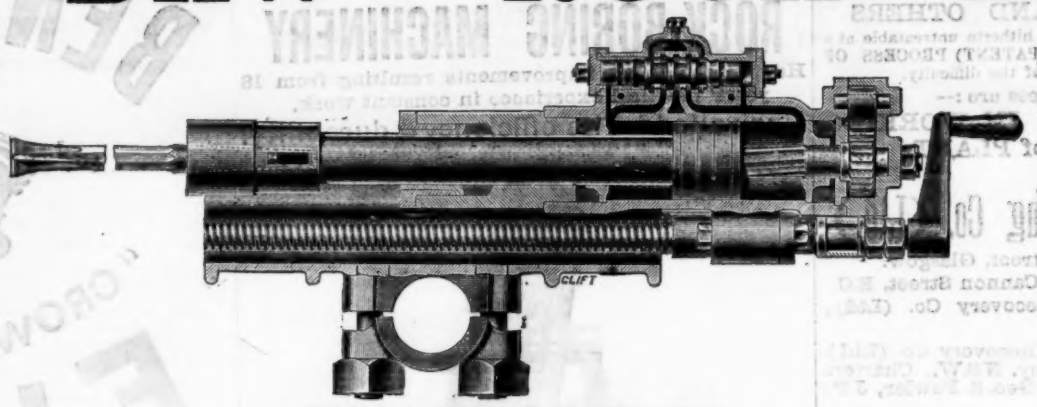

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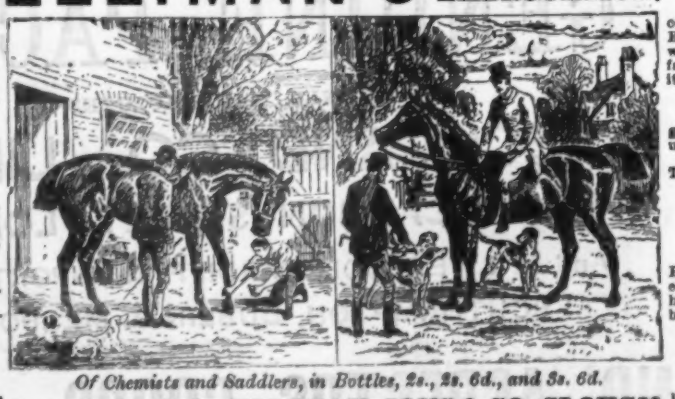

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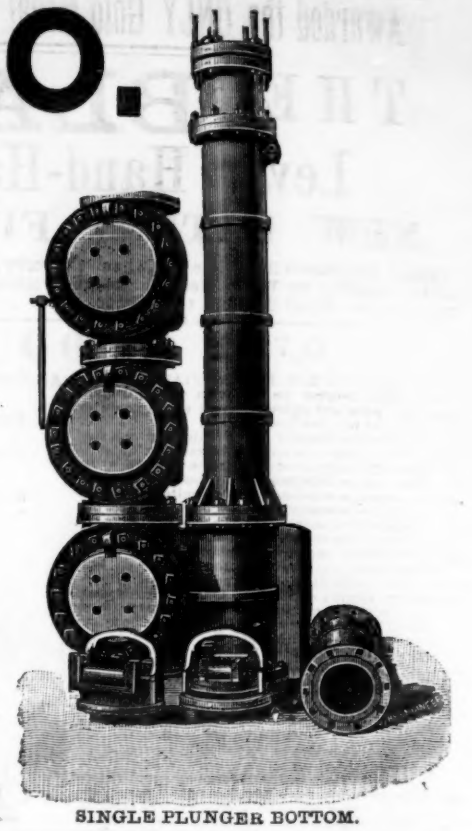

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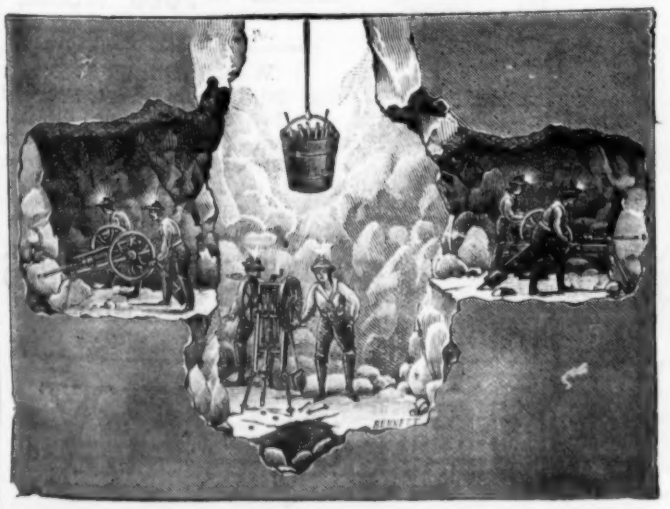

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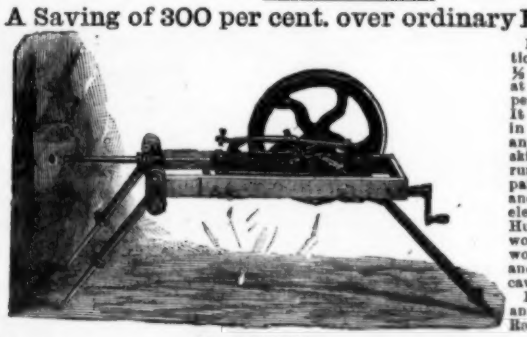

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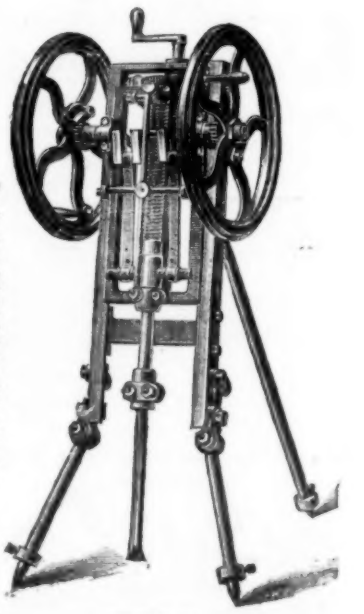

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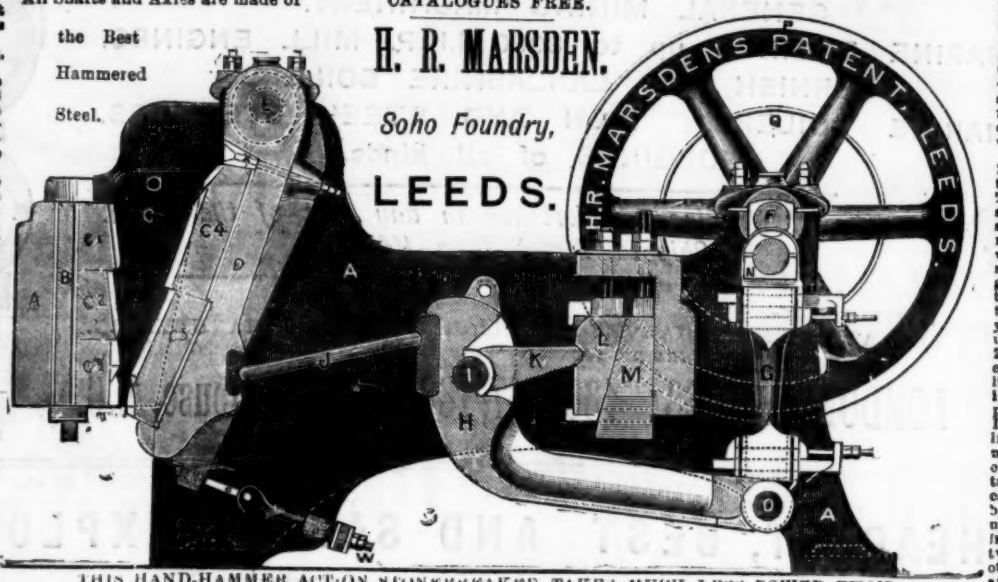

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"The Fine Crusher we had from you in August last is an excellent pulverizer, and rapidly reduces hard material to a fine powder."

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STONEBREAKERS AND ORE CRUSHERS.

TESTIMONIALS.

"We have great pleasure in testifying to the efficiency of the 15 in. by 8 in Lever Hand Hammer Motion Stone Breaker you supplied us with. We find that our 4 h-p. Engine with ease drives it 300 revolutions per minute, and breaks six ton per hour of the hardest "Diorite" Whinstone the sample is much before any hand-broken we have ever got down. Our Mr. P. J. GRAHAM, C.E., who was Surveyor of Highways for ten years, before joining our firm, says It is by far the most economical machine he ever had to do with; he had two of your former make, and two of another firm's make; compared with these four machines your new patent gives the following advantages:—The horse-power required to drive is exactly 40 per cent. less. The sample of the broken macadam is so far superior to that broken by other machines, and even to that broken by hand that we can make no comparison. I is by far the best sample we have ever seen."

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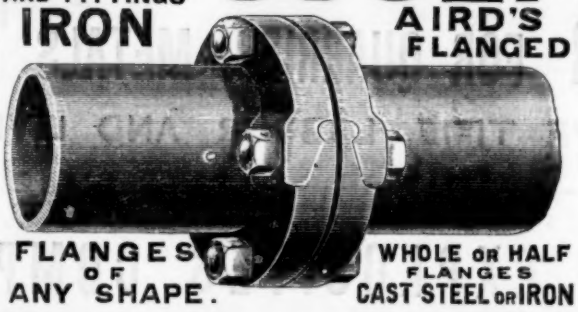

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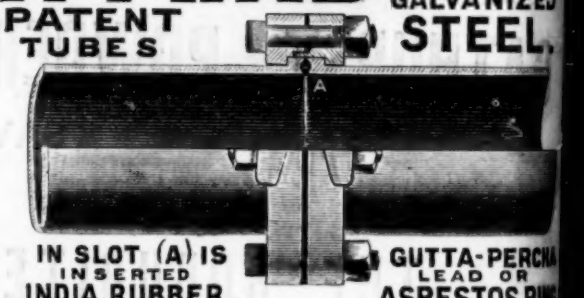

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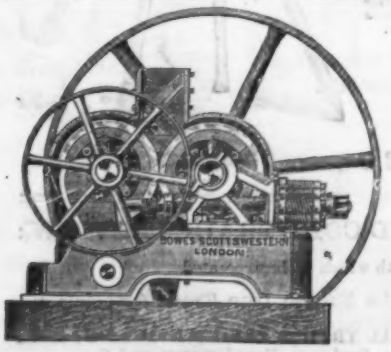

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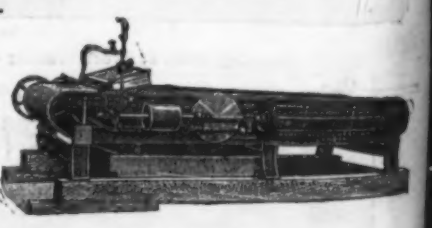

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